

MASSACHUSETTS PLOUGHMAN

DEVOTED TO AGRICULTURE, HORTICULTURE, THE FARM, THE GARDEN.

NEW ENGLAND

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Correspondence from practical farmers, giving the results of their experience, is solicited. Letters should be signed with the writer's real name, in full, which will be printed or not, as the writer may wish.
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Agricultural.

Farm and Garden Irrigation.

The crop report of the Massachusetts Board of Agriculture contains an essay by Prof. C. S. Phelps of the Connecticut Station, upon "Irrigation in Humid Climates," as applied to the soils and crops of New England, and though he treats it more from a Connecticut standpoint, it is applicable to all the New England States. He gives the reasons why irrigation is often important to the farmer of New England as follows:

(1) The uneven distribution of the rainfall and the occurrence of frequent severe droughts during the growing season; (2) the large amount of water used by all crops, and especially by most crops of high market value; (3) the large amount of water lost to the plant by leaching and by evaporation from the soil; (4) the high value per acre of many of the crops best adapted to New England; (5) the high price of lands and the changed conditions of agriculture; (6) the many small streams and ponds by means of which irrigation may be made practicable at small expense.

The average yearly rainfall in Massachusetts is about forty-five inches, including melted snow, which would be ample if evenly distributed through the year for nearly all crops, but the snow in winter and the heavy rains in fall and spring account for much of it, and a characteristic of the climate is the short but severe summer drought, when a high temperature with drying winds often causes the crops to wilt, and in less than three weeks the crop prospects may be nearly ruined by the lack of water. Most crops need during the three summer months from three to four inches a month well distributed.

For thirteen seasons the stations in Connecticut, from seventeen to twenty-three in number, have shown an average of 2.68 inches in June. For July, omitting two years of excessive rainfall, 3.65 inches, and August practically four inches. In 1901 it was only .75 inches in June, 1.55 in July and 1.87 in August, or but little over four inches during the three months.

An instance noted on a Connecticut farm in 1895 shows the value of irrigation. One field of strawberries was on land that could not be reached with the irrigation pipes. Another was irrigated by three applications of water from pipes on the surface. This produced 2½ times greater crop than the field not irrigated. In 1899 and 1900 there were spring and early-summer droughts, and the hay crop was very light. This year, with heavy rains in May and early in June, the crop has been very heavy.

Green grass or clover contains eighty to ninety per cent. of water, strawberries, raspberries, peaches and pears eighty to ninety-two per cent. Reliable estimates show that two tons of hay per acre evaporate about 225 tons of water, an average crop of 720 pounds of wheat, and 1500 pounds of straw requires about 260 tons of water. If a field of clover grows ten tons of green fodder, ten tons of hay will grow, and an acre of clover weighing fifteen tons per acre would need 10.6 inches. This does not take account what may run off, or be leached down below the reach of plant roots. Some of these losses may be prevented by watering and by a frequent stirring of the soil, as in some experiments he had made on a loam soil. When not stirred there was loss by evaporation of 1½ inches of water, while on that where the soil was frequently stirred the loss was three-quarters of an inch.

Some small fruits and market-garden crops, when not irrigated, the value is estimated at strawberries \$200 to \$450, raspberries \$200 to \$400, asparagus \$100 to \$200, cauliflower \$200 to \$400, celery \$200 to \$300, and the difference by irrigation of one-half the value of these crops, lack of water, where five or six acres would cover quite an outlay for irrigation. Two men in Connecticut who irrigated extensively say that the full value of the plant was returned the first season, and the increased crops when water was used.

Losses of crop failures by drought often make the profits of favorable seasons, as the markets are supplied and prices kept down, products from points where the seasons more favorable. The high price of fruit in the vicinity of cities and towns makes intensive farming and growing of fruit of market garden crops almost necessary, and with high cost of labor and fertilizing one cannot afford the loss of a crop.

Throughout New England there are many

small streams bordered by fertile valleys. In many cases these can be so changed as to water several acres. In others large hydraulic rams can be used to lift the water when the fall is sufficient.

He gives a few instances of successful irrigation. The oldest irrigation plant now in use in that State was located at South Manchester in 1796, the water being taken from a small stream at a point about sixty rods above the farm and waters about five acres, being carried in open ditches. For

wide, three rows in each, and two rows between each not included in the test. The two plots irrigated yielded 5318 quarts per acre, worth eleven cents a quart, or \$584.76 per acre. The two not irrigated only produced 2983 quarts per acre, averaging nine cents a quart, or \$268.47 per acre, a difference of \$316.29 per acre. The watering was done on June 10, 15, 18 and 20.

The cheapest methods of irrigation are from ponds so located that water can be taken from them to lower lands in open

can have who will apply a little intelligence in stable building, and in the care of his stock.

Three things should be made prominent in stable sanitation: plenty of windows and sunlight—the stable so built that the largest amount of sunlight possible shall fall into it and on to the floors and the stock. That means a dry stable, free from dampness, and a natural method of killing microbes, and putting electricity into the hair of the cows—something that light and sunlight

fresh from the stable makes a fine absorbent, better than muck, and then the mixing of the two manures makes each the more valuable. Land plaster and South Carolina rock, "acidulated," make fine deodorizers, and add value to the manure carried away, as they, on the one hand, strengthen the manure in phosphoric acid and in the "fixing" of ammonia. To our liking, clay road dust is the equal of either as a deodorizer, and in the dusty August days a couple of hundred bushels of dust lightly

but to turn them on grass that has a value as hay has not been a common practice, though we have seen a little space where the pigs were allowed to roam before they were weaned, while the sow was kept confined to her own yard and pen, which seemed to make the weaning more easy, especially when in that outer yard there was a trough in which they could be given a little skim-milk, oats or wheat bran. By this process farmers who did not keep pure-bred swine, and who perhaps never saw one, had pigs eight weeks old that would weigh 35 to 45 pounds.

But we believe that it would pay to give the sows, while pigs are roaming with them, some green food to increase the milk supply until it is time for her to wean them. Grass or clover cut and thrown to them while fresh or green corn fodder they eat readily, as they do sweet apples, raw roots of almost all kinds, but especially beets and mangels, and leaves of cabbage and turnips when not wilted. As regards the corn fodder, we are not sure whether it produces the best results given as soon as cut, or after twenty-four hours of wilting. We have found that the latter method gave best results with milch cows, but have not given it a fair trial for hogs, and doubt if it would work as well for them, as they do not chew their food again after they have swallowed it. The one trouble with following this plan is that the grass is not plentiful at the time of the spring litter, and corn fodder when the fall litter is suckling has usually passed the green condition. Green rye or oats may be made to serve a good purpose in this way, and perhaps rape may well be used for the sows that have their litters in the fall.

Dr. Leonard Pearson told before the New Jersey Agricultural Society his method of ventilating his stables, and gave his reasons for it, which seem so reasonable that we will reproduce both of them. He says that the foul air in the stable is nearest the floor. It is there that the manure and urine are deposited, and if there is a wooden floor it is that which absorbs them to ferment or putrefy. It is toward the floor that the breath of the animal is directed. These warm the air, so that the air there is warmer than at the top of the room when properly ventilated. It is this foul and warm air that he wishes to carry off before it rises in the stable. To do this in a stable for six cows he has a sheet-iron funnel or tube in each corner which is sixteen inches in diameter. They come down within one foot of the floor and pass up through the top of the stable to the top of the building, where they are surmounted by a metal cap, which keeps out the rain, and prevents air from blowing down. The wind blowing through this makes a suction, but it works nearly as well when no air is stirring outside. The shafts or pipes being warmer than the air in the stable, and the air in them warmer than the air out of doors, prevents any tendency of the air to fall after it is once in the pipes. Fresh air is admitted at the top of the stable by a pipe, which opens out of doors near the bottom, and going upward enters the stable, where it goes in and settles, to take the place of the warm air that is drawn out by the other pipes. He has tested it thoroughly, not only in its use, but by suspending pieces of tissue paper from the ceiling, and noting which way they were drawn by the wind. He found that when doors and windows were closed they always swung away from the pipe that came in at the top, and toward those which opened at the bottom. Of course when doors and windows were open an abundance of fresh air came in. We like his plan, not only for the reason he gives, but because the inward draft of fresh air comes above the heads of the animals whether standing or lying down. Some have tried the plan of admitting cold air near the heads of the animals at the floor, but it is open to the objection of chilling the body of the animal when lying down, which is the very thing that it most needs the warmth of the stable and of its own body.

Berkshire County Notes.

The hillside forests of Berkshire County, Massachusetts, have been in their glory for the past few weeks. A carriage road from Williamstown to Great Barrington, in almost ideal October weather, has been very enjoyable.

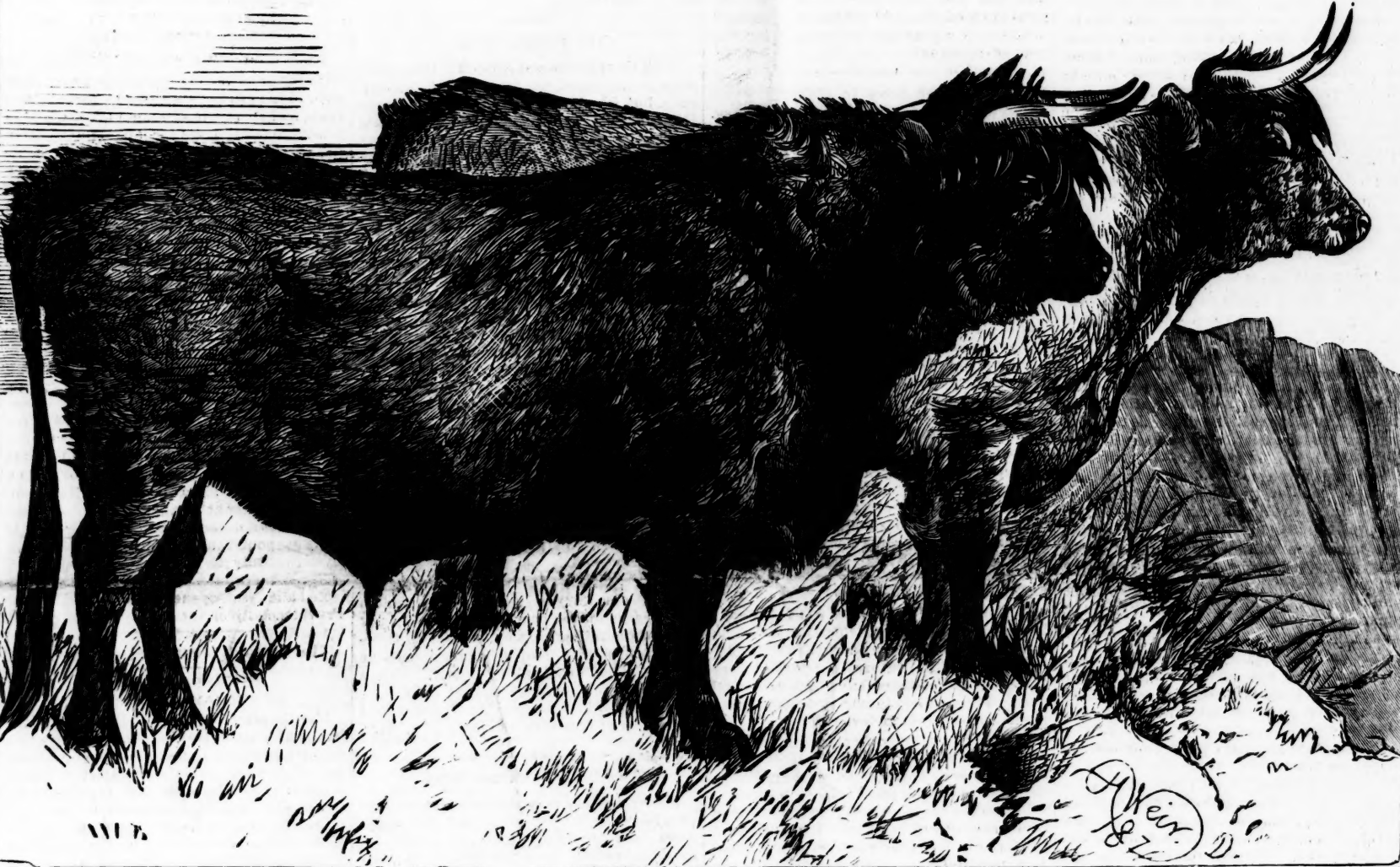
Doubtless there is not another such seventy-five miles, in one stretch of continuous interest to a lover of nature, as this, in the State; and, with the historic traditions and monuments at Williamstown and Stockbridge, and the busy hives of industry at North Adams, Pittsfield, Lee and intermediate villages, it is given an additional interest in the material sense.

An electric-railway system is about being completed throughout the entire length of the county, to be in running order next spring. This will be a great feature for that portion of the outlying public which is not in the millionaire class. The latter do not care for it, so the rails are not to be laid through the main street of Lenox; indeed, a visitor there would want the use of a carriage to see and comprehend what the millionaires of New York have done in widely separated parts of the town.

Lenox people smile at the idea of the town going backward, since nature and the dollars planted there are too prominent to permit of it.

From Pittsfield, passing out by the noted Allen Stock Farm, through a side valley, one comes to Lenox, a clean and interesting town, the home of our popular governor and the spot where our bank-note paper is made by the firm of Crane Brothers. The junior member of the firm, Frank G. Crane, runs as a recreation the old homestead, having a fine lot of horses and neat stock quartered there.

Farm reports throughout the country are very much like the general reports of the New England States this season, with very little farm produce for export.



WEST HIGHLAND CATTLE.

many years it was used for growing grass and produced good crops. For the past twenty years the present owner, Mr. Joseph Albiston, has used this land mainly for small fruit and vegetables. A second plan was put to operation a few years ago. A small dam was erected on the brook and a pond formed. Water is taken from this to supply two acres on the other side of the brook. This is a compact loan with a hardpan subsoil, and is also drained to take off surplus water.

In 1894 he grew on thirty-two square rods strawberries at the rate of 10,400 quarts per acre. In 1895, with a severe drought at strawberry time, his strawberry crop was the best he ever produced. Black cap raspberries and blackberries have produced exceptionally fine crops each year on irrigated land. In 1894, an unfavorable season for potatoes, he raised three hundred bushels per acre.

The Hale Bros. of South Glastonbury bring water in iron pipes nearly a mile from a reservoir formed by damming a brook. The source is about one hundred feet above the land to be watered. For 360 feet a six-inch pipe was used, then a four-inch pipe for 1000 feet, and then with a fall of fifty feet three-inch pipe was used. It was carried along the ridges of the farm, and by drains about two hundred feet apart are placed, from which the water can be displaced along the surface. They say they have water for forty to fifty acres, and use it mostly for nursery trees and plants and for small fruits.

W. A. Leigh of Thomaston, Ct., brings water in pipes from a source about three hundred feet above his land, and uses a three-inch pipe on the surface, and it runs a seven-horse power water wheel for his works, and at nights is used for irrigating strawberries. He has used it since 1887, applying about the time the plants bloom and keeping it up until near the end of the fruiting season if needed.

J. C. Eddy of Simsbury, Ct., makes a specialty of small fruit and vegetables. He is on a light, porous, rather sandy soil, and uses two large rams to raise the water. With a fall of about seven feet, and six-inch drive pipes he fills a reservoir about seventy feet above the rams, and from these he has tributed along the surface. They say they have water for forty to fifty acres, and use it mostly for nursery trees and plants and for small fruits.

ditches. Perhaps the use of rams is the next cheapest when available. Good windmills on high ground with a large storage tank may do work enough to water three to six acres. When water is only wanted for a short time on crops that give a good profit steam may be used economically to pump the water. Naphtha or gasoline engines of five or six-horse power are economical of fuel and easily operated, while of lighter weight than coal engines. The oldest method was to let the water into a furrow between the rows at the upper end of the field, and back through the next furrow until the lower rows are reached. A man with a hoe is needed to remove obstructions and direct the course of the water.

For strawberries it is better that it run down the slope between the rows, and a slope of three to six feet in one hundred is enough. If it is greater the soil may wash. Where the supply is limited, iron pipes may be used to distribute the water either by flowing over the surface or by sprinkling. They should be about two inches in diameter if the fall is not over one hundred feet. Condensed fire hose can be bought very cheaply in most of our large cities, and if two or three inches in diameter, with a fall of fifty feet or more, a heavy spray can be used. In spraying strawberries from twenty-five to forty gallons a minute is needed in iron pipes to supply the water as fast as seems to be desirable.

If pipes are laid underground a series of small nozzles along the line at intervals may be used for spraying.

Improved Stables for Cows.

While the model dairy at the Pan-American is not what a very critical man would call perfect, there are two prominent features that stand out clear from the others. One is the possibility of taking lots of five cows each, confining them in a small, shaded stable, buying all of the food for them at market rates, and turning a handsome profit on the venture at market rates for the product. The other is that these five cows have been kept in their stalls through four months of hot weather, and so far as the sanitation of the stables is concerned, they have not at any time occasioned either odors, offensive conditions or an atmosphere that has in any degree manifested itself in milk or products. This is a severe test, and if it can be maintained in an all-the-time-in-use summer stable, why do we find so many foul, ill-smelling stables in the winter, and why do we hear the plea, "We are obliged to let the cows out several hours each day, to get some fresh, pure air." After fifteen years of continuous winter stabling, the cows only going out a half dozen times during the winter, I am sure that the Pan-American stables are not extreme cases, but what any dairyman

can do better than anything else. Then a floor made on the ground itself, and not a "bridge" above the soil, the space beneath to become a cavern of foul smells and the source of ascending gases. A floor made of grout and cement on the ground itself is both dry and free from frost, and can be made by the use of bedding and absorbents as nearly perfect as is possible in cattle housing. As to ventilation there are many opinions. It now seems about agreed that some form of chimneys coming down to the ground floor and extending somewhat above the ridge of the barn, with an opening at the bottom of the shaft, affords the best possible way of getting the foul, bad-smelling air from the floor up out of the stable. The chimney in the house, that starts from the cellar floor, always has a strong draught if given a basement draught, and it works the same way in the stable. One of the best plans to secure this drawing out of foul air is to have a shaft for each stable about fifteen by thirty-six inches, and on each side of it, and opening into it at the floor level, a long box reaching each way to the ends of the stable. They should be twelve by twelve inches square inside measure, and closed at the ends. These boxes are placed next to the side walls and on the floor, and in the front side of them are numerous small holes. The draft from the shaft thus draws in the air the entire length of the stable. Few stables are so close that the air to supply the shaft will not find ready access, but it is better to have the stable pretty close and to admit what air is needed from outside sources, beginning at the sill on the outside and opening into the top of the ceiling on the inside wall of the stables. It is no use to try this plan unless there are a close floor and close walls. There are many variations of this plan, but all must agree on one point—taking the air from the stable from near the floor, and never from the top of the room. Exchanging air in the stable, and getting dry air from without constantly maintains the temperature at a not greatly changing degree. In my own stable it seems to hang about the 55° mark, except in very cold weather, when the dampers are shut partially, which sends up the temperature a few notches.

Then the care of the cows. It is the best plan to clean out the gutters twice each day, and not allow a great accumulation of matter at a time. With a rood floor and tight gutters, there should be material at hand for use as absorbents and deodorizers. Brushing and carding the cows each day tends to cleanliness in itself, and is worth its cost in increased milk. There should be plenty of bedding, and fresh material should be supplied as fast as it is worn out and disappears in the gutter. Long horse manure

shoveled up here and there is never missed by the public or accounted for in increased labor to follow.

As soon as the stables are cleaned, sprinkle a quart of dust behind each cow, then add the absorbent, and if the owner will prevent the wet places about the stable and attend to keeping the bedding dry, there is no reason why the stable should not be so sanitary that the finest and best milk in the world can be made in it, the best products secured, and the stable smells and tastes wholly eliminated.

Stables must be warmed by the heat from the bodies of the cows confined. This can never be done when draughts of air go in at any crack and go out at a corresponding crack opposite. Nor can sanitation be attained when the cows are shut up in a dark stable, and all air and light excluded. That is a hothouse for lung troubles and coughing cattle. The milking cow needs warmth, a change of air and comfort. This means a stable of pretty nearly uniform temperature, lots of sunlight, a dry bed, and water not far away. This is all possible with small outlay. Then we have the sanitary stable. It makes small difference which way the Koch theory is decided. Buyers want clean milk, pure milk, and milk free from foreign flavors. The law is becoming more strenuous every day in the matter, and it will be enforced in the main, no matter who suffers.—New York Tribune.

Live Stock Notes.

The New Zealand chemical mixture for branding, and which is claimed to be quite as plain in its marking, and in other ways not as troublesome to the user or painful to the animal, is thus reported. Mix barium sulphate sixteen ounces and coal tar sixteen ounces, then take thirty-two ounces American potash (caustic potash we think is meant), thirty-two fluid ounces of spirits of turpentine, and thirty-two fluid ounces of water. Mix all thoroughly, the three last separately, then add the two mixtures and mix gradually, but so as to make a thorough mixture of the whole. This is said to be as effective with a wooden brand as with iron, and leave as indelible mark as the red-hot iron. While few of our readers need to brand their stock, there are cases where pastures are far from home that it may prove desirable.

Pasturing the hogs on clover, or indeed in any pasture that can be utilized for other animals, has not been popular in the Eastern States within our remembrance. They have been turned in fields that were overrun with brakes or ferns, quack or couch grass, biadweed or wild morning glory, and certain other weeds of which they will root out and eat the fleshy roots or underground stems,

Money in Salt Marsh Land.

**Milk
Fever
Cure**

Hood Farm Milk Fever Cure
(Improved Schmidt Treatment complete) saves the lives of the most valuable cows. Can be applied after the cow is unconscious. Three treatments, \$2.50. Sent to any railroad express point in the United States, \$2.75.

C. I. HOOD & Co.,
Lowell, Mass.

Mention this Paper.

The receipts of butter at Boston for the week ending Oct. 19 were 21,359 tubs and 517 boxes, a total weight of 1,015,300 pounds, including 62,400 pounds in transit export, and with the latter deducted, the total was 952,900 pounds, against 1,046,000 pounds for the week ending Oct. 12.

Potato Crop in Maine.

New York Markets.

dealers are putting much of the fancy stock into storage. Greenings are \$3.50 to \$4 a barrel, King \$3 to \$5 a barrel, York Imperial and Snow \$5 to \$4.50, Wine Sap, Davis, prime Baldwin and Twenty-nine \$3 to \$4, Tallman Sweet \$2.75 to \$3, all varieties \$2 to \$3, Ordinary hard red fair prime \$2.50 to \$3, inferior late sort \$1.50 to \$2, and fancy fair \$1.25 to \$1.50. Domestic \$3 to \$3.50. Seckels fancy \$4 to \$4.50, fair \$3.50 to \$3.50, Rose \$2.50 to \$3.50, Yorkling and Claigreau \$2.50 to \$3, Duchesse \$2.50 to \$2, Kiefer \$1 to \$2.25, common \$1 to \$2. Quinces scarce at \$2.75 to \$4.50 a barrel. But few peaches coming and dull. River two-basket carriers \$1 to \$1.50, one-basket \$0.75 to 75 cents, Ohio and Michigan bushel baskets \$1.25 to \$2, Southern

HERDWICK RAM.

The Potato Crop

The Crop of Clover Seed.

The Hay Trade

New York city received 12,910 tons, against 9,215 tons for same week last year.

must \$315 tons for same week last year.
 musters were 25,068 barrels. Some accumu-
 on and prime must be very good at \$17.50
 \$18.50, and so must No. 1 at \$16 to \$17.
 over grades in over supply and weak
 w lower prices in most cases. Jersey
 to about the same condition as New
 York.

Hay Trade Journal gives highest
 rates at New York and Jersey City \$18.50,
 at Providence \$18, New Orleans
 \$15.50, Baltimore \$16.50, Philadelphia and
 Richmond \$16, Norfolk, Nashville and
 Buffalo \$15.50, St. Louis and Memphis
 \$15, Chicago and Kansas City
 \$14.50, Louisville \$14, Cincinnati \$13.50,
 St. Paul \$13, and Duluth \$12. San Fran-

Boston Fish Market.

The Second Great Duel of America.

Decatur and Barron.

Passing from the above thoughts, which
though penned nearly a century ago are

he quarrel between Decatur and Barron

[illegible]

We are indebted to C. S. Pratt, Reading, Mass., for a large box full of dahlias, including many new and single varieties. Among the collection were some of the richest colors, red, scarlet, pink, white and variegated. Mr. Pratt is one of the largest growers of such flowers, and has a much good luck.

A. T., Massachusetts: I have just lost a very
and speedy Patchen mare from distemper

Answer: From your description I should say the animal in question died from spinal

quidigitis, one of the complications of the preling dysteroper. The first and most promising symptom of the trouble was acute bronchitis, hard, dry cough, followed by loss of appetite and a general prostration, the legs becoming in paralysis or blood poison. There was no or made of treatment that would apply to all cases, as no two are alike, and the physician could only treat the symptoms as they presented themselves. It is always a good plan in a prevailing distemper, to keep the animals as soon as possible, and in that way in the majority of instances you avoid serious complications. There is nothing you could do to prevent attack as it arises from atmospheric influences, and the trouble of the animal is to be attacked and the others be immune, according to their physical condition and the amount of stamina they possessed to combat it. Condition of the animal's stomach has a good deal to do with the susceptibility to an attack, and that organ was performing its function regularly, the animal might escape with a very attack; on the other hand, if it was off at the time, according to the germ theory, it would be liable to absorb countless numbers of organisms and very soon be attacked. It is gratifying without good nursing and care would be likely to die. Undoubtedly your mare predisposed to some such trouble. When the illness developed it very rapidly, and in these cases it is very necessary that the animal have very special nursing care, as well as good medical attendance, otherwise the result is not gratifying. It is impossible to tell whether the animal is predisposed to this physical examination previous to the illness, and the extent of the attack, as only develops by severe nervous exhaustion, as the result of illness. When an animal is so attacked, it manifests any spinal weakness, he should be fully washed, and placed in a sling, so as to prevent any further exertion. The treatment in majority of cases will be good.

**Milk
Fever
Cure**

Hood Farm Milk Fever Cure (Improved Schmidt Treatment complete) saves the lives of the most valuable cows. Can be applied after the cow is unconscious. Three treatments, \$2.50. Sent to any railroad express point in the United States, \$2.75.

**C. I. Hood & Co.,
Lowell, Mass.**

Mention this Paper.

Poultry.

Practical Poultry Points.

A. F. Hunter tells in the Practical Farmer of a successful chicken raiser who marketed four thousand chickens between April 25 and Aug. 19, for the net sum of \$18,800, of which about \$1000 was profit. Some of the earliest sold at \$1 each of which about seventy-five cents was profit. He said it took nine weeks to make a 15-pound chicken and eleven weeks to make a two-pounder. He begins with a mixture of meals, and a very little meat meal, soft but not sloppy. This with millet seed and finely cracked wheat is the food for the first week, then finely cracked corn is added. Until three weeks old they are fed five times a day, after that three times a day. In the morning a mash of cornmeal or gluten meal with bran in equal parts, and a little of the meat meal, wheat at noon, and cracked corn at night. At the middle of the forenoon green food, and middle of the afternoon cut fresh bone, and all the skim-milk they care to drink. They not only live and grow, but he averages about five cents a pound above the market rates because of their excellent quality. He could not do this with dry grain, because they would not make that growth on dry grain in so short a time, and when they reached that weight the meat would be poorer in quality. He says the food to bring them to two pounds weight costs eight cents each, the labor is seven cents each, besides the picking which is five cents, and as he markets one chicken for each two eggs put in the incubator, he charges them with two eggs at five cents, making the cost twenty-five cents each when they weigh two pounds. His green food is lawn mower clippings when it is in season, rape when the grass supply runs short, and finely cut clover hay made fresh by steaming it to never overfeed, but keep them just a little hungry, so that they will have a good appetite for the next meal. This can only be done by careful watching while they are feeding.

A member of the committee of Poultry Exhibit at the Bristol County Fair, says in the American Stock Keeper, that the uniform cages for birds at an exhibition make it easier to give close scoring of the birds, as when taken from a coop too small or so low that they cannot stand erect, the birds do not show their natural form or condition. He thinks that the early hatchers of birds from each maturing breeds should not be forced to induce early laying, as they may lay out their litters in the fall and remain all winter without producing eggs. Also that it is a mistake to keep the pullets too warm if they begin to lay in the fall, as when cold weather comes it will check them, and all the more surely because while so warm they will not have put on their winter plumage to protect them from cold. Thus for a few eggs in the fall months there may be a total falling off during the winter, when the egg prices are high. During the warm weather the hen does not naturally throw out a heavy plumage, even those that are usually well feathered falling short when they are taken to a warm climate, or housed at night in a warm building, and when the cold nights do come they cannot be growing feathers and producing eggs at the same time. We are not sure that we agree with all his ideas, but they are worth thinking of at least, and we think we recognize a well-known breeder's ideas in the statement.

Hawks, foxes, skunks, owls and cats are the foes of the poultrymen in summer, and in places near water minks, and in other places near woods raccoons and possums will often do some damage, but we think all of them combined do not do as much damage in the year as rats, though a colony of weasels may soon finish a whole flock. But they are not plenty in this section of the country, and rats are, and they work in summer and winter, by day and night, which the others do not, attacking old birds, chickens and eggs. They are also the most difficult to bar out. A cement floor two or three inches thick and a cement wall a foot high, with a fine wire netting two feet above that may keep them out, if there is no opportunity for them to come in at open doors or slides for the hens, or to get up above and drop down where we have known them to do. Yet we doubt if any or all of these kill as many chickens and fowl, or hinder egg production with the average poultry keeper, as much as the lice that infest their bodies or the mites that are on the roosts and in the nest boxes and the walls of the building where they are kept. Yet they are more easily guarded against than the rats, and can be kept so reduced in numbers that a little care will so reduce, if not exterminate them, that farmer or poultry fancier should not be seriously troubled by them. We have given many times our method of exterminating them, first to cleanse out the house and put insect powder on the fowl at night to drive the lice from them to the roosts. Then cover roosts, walls and all boxes with a thick coat of kerosene by using a brush or by spraying, then fumigate it well by closing and burning charcoal and sulphur inside for about two hours, after which it must be well ventilated before any one of the fowl go into it. The next day spray everything with lime water, which has a table-spoonful of a solution of carbolic acid in a pailful, and repeat this treatment in ten days, and we think that we can guarantee that there will not be a louse in the building all winter. Within our care it was thought almost impossible to carry calves through the winter without their being lousy, and school children were not exempt from the same trouble even after we had chickens in school. Now it would be thought disgraceful if they were found on either, and we hope to live to see them as well banished from the poultry house as they are from campfires and schoolhouses.

Where the poultry standard is such that an exhibitor, in order to win, must breed from one pen to get good cockerels and send his pullets to the slaughter pen, and breed from another to get good pullets, and consider his cockerels as worth no more than they will sell for when dressed for the market, we think the standard is wrong. A man does well with almost any breed or strain who gets one show bird, or one that will score ninety points, out of twenty chickens, but to require him to raise more than twice as many birds to get one of either sex, we do not believe is necessary. Yet this is virtually done with Barred Plymouth Rocks, Leghorns, Partridge Cochins and some other breeds in which the male and female differ in color or marking. We think it would be better to make such changes in the standard as to bring both male and female from the same mating within its requirements if good fowl and well bred.

There has been an improvement in the Brown Leghorn fowl within a few years, and we think more among those who keep them for utility than among those who breed only for fancy, although we noticed that some exhibitors at our last poultry show in Boston were showing larger birds than we used to know. Seldom did we see a Leghorn hen that weighed four pounds until recently, and now we see them weighing five pounds. We think this has not been brought about by any admixture of other blood, but by selecting the larger hens to breed from. These large hens lay as well as the little three-pound birds, and are more valuable as poultry when dressed for market. It seems to be the hen that establishes the size of the future fowl rather than the male bird.

For the Winter Diet.

Through the summer the diet of the hens has been somewhat restricted, grain and especially corn having proved almost too fattening and heating for the weather; but from now on the poultry should have their full winter diet. This should be given for the purpose of increasing the general health and strength of the hens and then for eggs. Hens which do not have splendid health and strength cannot prove good layers of eggs. The two go together. You may feed hens on stimulating foods so they will lay a few extra eggs, but in a short time they will give out and prove worthless. The first thing should be to aim for a good, all-around diet that will make the birds healthy and strong. Grain, corn, scraps of meat, bread and such table leavings should be fed to them liberally. Do not forget the seeds which in the fall of the year can be collected in considerable quantities. Hens like the seeds of flowers, vegetables and weeds. They enjoy eating them out of the pods, and the plants where possible should be cut down and thrown into the chicken yard. The work of collecting them will do the hens good.

Grain and corn are essential now. You cannot neglect these without endangering the health of the birds. Whether spring chickens or laying hens, they should have their daily grain ration. Bran, cooked or scalded is an excellent food for them and fed hot or cool mornings it proves of great benefit. Overfeeding, of course, must be avoided. Too much corn and grains will make the hens fat and lazy, and cause indigestion, which will ruin all the good obtained. To avoid laziness make the hens work part of the day for their food. Turn them loose in some straw with the grain scattered around in it, and then make them scratch for it. There are many ways to make the laying hens keep their health even when fed daily on a full, well-rounded diet.

Green bones, carefully ground, and oyster and clam shells pounded very fine are all good in their way, and they do help to increase the egg output; but not unless the rest of the diet is good and wholesome. It is folly to think that the ground bone will make more eggs when the hens are barely getting enough to eat to keep body and soul together. There must first be a surplus of food in the system, and then something fed to stimulate egg-laying may divert a part of this surplus to the hen's proper function instead of letting it all go to fat. Care must be taken that the hens do not get fat; any such tendency should be checked, for fat hens do not lay many eggs. Strong, active hens, well fed and contented, do.

Poultry and Game.

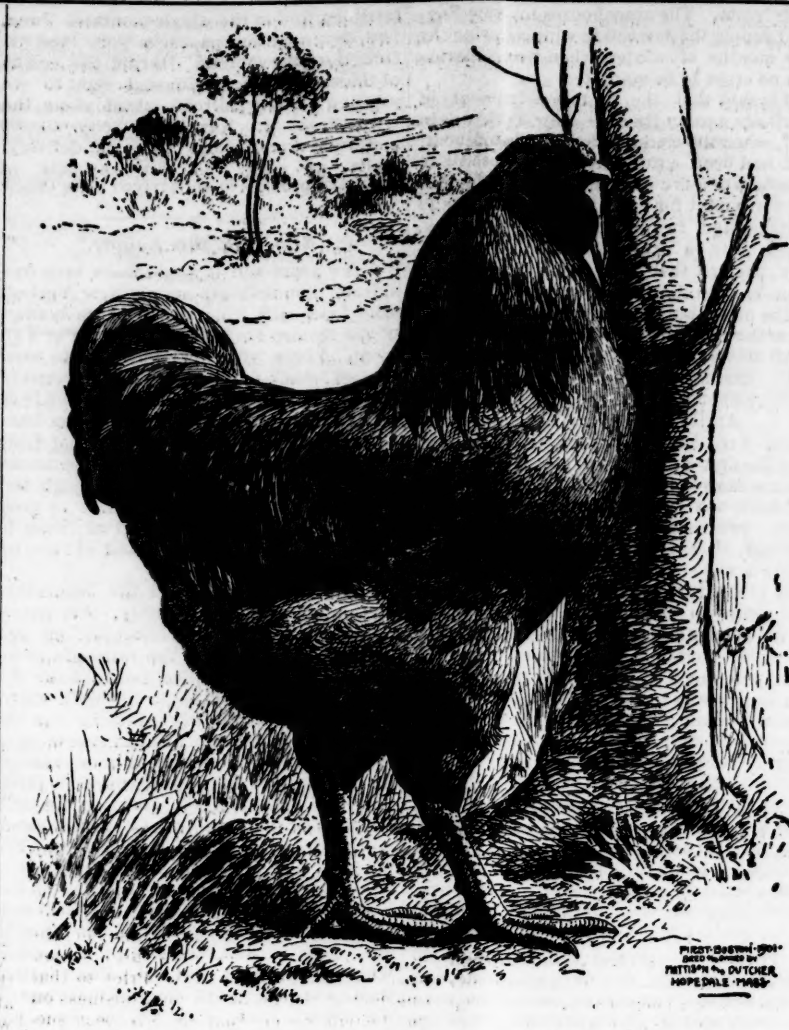
The poultry trade is dull and prices lower. Fresh-killed Northern and Eastern chickens, roasting, at 15 to 16 cents, broilers 12 to 14 cents and fair to good 10 to 12 cents. Fowl extra choice 12 cents and fair to good 10 to 11 cents. Ducks 14 to 15 cents. Some choice large, young Northern turkeys sell at 18 to 20 cents, but if only fair to good sell at 12 to 15 cents. Pigeons \$1.25 a dozen for home use, \$1.75 a dozen for fair to good. Squabs firm at \$2.50 a dozen for choice lots. Western-died poultry dull. Chickens 9 to 11 cents, fowl 9 to 10 cents, old roosters 7 cents. Ducks 10 to 11 cents and turkeys 12 to 13 cents for choice young, common young 9 to 11 cents and old at 9 to 10 cents. Live poultry quiet. Chickens and fowl 8 to 9 cents, and must be extra to bring 9 cents. Old roosters 5 to 6 cents. Game in small demand. A few canvas-back ducks at \$2.50 to \$3 a pair, black ducks \$1 to \$1.25. Teal 75 cents to \$1 and coot 25 to 30 cents. Grouse scarce yet at \$1.25 to \$1.50 a pair. Cold-storage birds steady, plover and winter yellow legs \$4 to \$4.50 a dozen. Summer yellow legs nearly gone at \$2 to \$2.50, red birds 30 to 75 cents, peep 40 to 50 cents. Native quail scarce at \$3 a dozen and Western \$2 to \$2.50. Venison remains scarce at 16 to 18 cents for carcasses, 25 cents for saddles. A few moose have been brought in and sold at 8 cents a pound, whole. Legs at 12 to 14 cents. Raccoon at 75 cents to \$1.50 each, as to size, rabbits 10 to 12 cents and gray squirrels 6 to 8 cents each.

Horticultural.

Orchard and Garden.

At the Geneva Experiment Station they have tested spraying to prevent asparagus rust. They used one-eighth Bordeaux mixture adding to each fifty gallons of it two gallons of the stock resin solution. Spraying was done Aug. 5 and 17 and Sept. 1, coating the plants well, but not so as to smother them. The sprayed plants held their foliage until frost came, while unsprayed plants were bare by Oct. 7. The next spring record was made of the yield on the middle row of sprayed and unsprayed plots. Sprayed 438 pounds or 118 bunches prime worth \$16.61, twenty-seven bunches culls \$1.64. Unsprayed 258 pounds, 53 bunches of prime, worth \$7.42, and thirty-three bunches of culls at \$1.98. This was a gain of 179 pounds, and of \$9.33 in value. The next year alternate rows were sprayed, spraying five times and beginning July 28. The rust was on the unsprayed rows Aug. 19, on all parts of them by Aug. 24, and they were killed by Sept. 10. The sprayed rows remained green until Oct. 15, though new sprouts in those rows that came after Aug. 10 were so tender as to be unable to resist the rust and were destroyed. The rust which was hardened before the rust came did not rust. Seven sprayed rows gave 875 pounds, making 192 bunches prime, 83 of culls. The unsprayed seven rows gave 569 pounds, or 121 bunches of prime and eighty-four bunches of culls, a gain of 283 pounds or forty-eight per cent. in weight and 44 per cent. in values. Nor was this all. The rows sprayed for two years increased in yield from eleven to twenty-two pounds per row, or 110 pounds on seven rows. Those not sprayed for two years decreased 179 pounds in production from the year previous.

The Toronto Globe tells of a new seedling peach, called the Wellington, which has fruited there for four years. It ripens there from Oct. 1 to Oct. 10, is a freestone, with rich yellow flesh of fine flavor, and last year three peaches weighed twenty-four ounces, or a half-pound each. This year the tree



FIRST PRIZE BUFF WYANDOTTE COCKEREL, BOSTON, 1901.

was allowed to set too much fruit and they were smaller. As Toronto has been thought too far north and too cold for peaches to thrive, the hardness of this ought to recommend it for cultivation in the northern section of the United States as well as in Canada, and we shall hope to hear more of it in the future, if it continues as well as it has begun. If it is propagated by budding on hardy stocks it should be valuable, while on stocks less hardy than itself it may not retain its hardness, for the influence of the stock on bud or graft is much greater than is usually allowed.

James J. H. Gregory writes to the New York Tribune that in 1891 he obtained eight hundred gooseberry bushes, including twenty-two varieties, two to three years old, from a firm in Belfast, Ireland. The list was made to obtain such varieties as had the best reputation in Ireland and England. They were given good soil, well cultivated, and sprayed with Bordeaux mixture, and the second season made a good growth and yielded a fair crop, but in the next two seasons came a very hot dry spell as the crop was nearly mature, and the fruit was all sunscalded and dropped from the bushes, and this after he had allowed the bushes to make growth in the hope that they would shade the fruit so as to prevent this trouble. With failure to get a crop more than one year out of three he has abandoned the idea of trying "to naturalize these obstinate foreigners," as he terms them. While much of the fruit was large and showy, he says to his taste they are inferior to the Downing. If a gardener like Mr. Gregory could not succeed with them, the farmer would do well to let them alone.

Several years ago we demonstrated by a practical test that rust on celery and on beans could be checked even after it was well started, by a solution of one ounce of carbonate of copper in a half-pint to a pint of liquid ammonia, which varies in strength so much as sold, that unless surely strong it is better to use the larger quantity. Add two quarts of water to this and let the carbonate all dissolve, then dilute with nine gallons and spray the plants thoroughly about once in a week or ten days in fair weather, but repeat if a rain washes it off. It will not restore the leaves already rusted, or the beans that are spotted, but it will prevent the rust or spot from extending farther. We published this at the time we tried it, but it may now meet the eye of some who did not see it then, or seeing it did not need it, and have not remembered it. We have no doubt it could be used to advantage on some other plants where rust has begun to work on them.

We think there is no better time for setting fruit trees than the fall, from the time the leaves have fallen until the ground freezes, though we do not know that it is better than the early spring if one can obtain from a nearby nursery trees fresh dug, and does not allow the roots to freeze or dry up before he sets them. But when one sends for them in the spring he may get trees that were dug in the fall and have been kept in a cellar during the winter. The roots may look fresh if the cellar is damp enough, but they will have lost something of their vitality, and are slow in starting growth of either roots or tops. We do not give plants credit enough for growth made during the winter, even when the ground is frozen. We have heard some assert that a plant cannot grow in frozen soil, but a little observation will show that the rhubarb, asparagus, tulips and some other of our early plants and bulbs are forcing their way upward before the soil has thawed. The temperature of the growing plant is higher than that of the earth, and it thaws its way outward, even as a hot iron thrust upward might do.

In setting new orchards do not be too much influenced by the descriptions in the catalogue or by recommendations in the newspapers. Even if honestly given they may be misleading. The winter apples that are the best for New England and New York, the Baldwin, Greening, Smith, Spy and others, are of but little value in southern or even in central Pennsylvania or south of that line. They either become a fall apple or fall prematurely, or perhaps fail to grow at all. Set such varieties as are known to do well in the vicinity upon similar soil. Give a preference to trees not more than two years from bud or graft, and then give them good care, not trying to force too much growth, but keeping them healthy and thrifty.

The Apple Crop.

The report that the apple crop of the United States being less than one-fourth the usual crop is not corroborated by the crop report from the Secretary of Agriculture as to the condition on Oct. 1. Two States are not reported, North Dakota and Wyoming, but of the forty-seven States and Territories thirty-one show the condition to have been 50 per cent. or more of a full crop. Nevada takes first place at 83 per

cent, California 74, Washington and Oregon 73 each, New Mexico 72, Oklahoma, 71, Colorado, Montana and Indian Territory 70, Louisiana 68, Arizona 65, Kansas 64, Arkansas and Texas 61, Vermont 60, Minnesota, North Carolina and Utah 59, Maryland and West Virginia 57, Mississippi 56, Virginia, Idaho and Alabama 55, Kentucky 53, South Carolina and Indiana 52, Nebraska and Tennessee 51, Missouri and South Dakota 50, Maine 48, Ohio 37, Wisconsin, Iowa and Pennsylvania 35, Massachusetts, Michigan and Illinois 31, New Hampshire and Florida 30, Rhode Island 25, New York and New Jersey 23 and Delaware 22 per cent. It will be noticed that with the exception of Maine and New York, the States which furnished most of our apples for export are having above 50 per cent, and as we said a few days ago, apples will be more carefully picked and packed this year than in a year of plenty, and the half crop on the trees will prove nearer a three-fourths crop when marketed.

Domestic and Foreign Fruits.

Apples are in liberal supply, with receipts of 17,137 barrels last week. Good stock sells readily. Graevestine, New England \$3.50 to \$4.50 a barrel, Nova Scotia \$3.50 to \$4, King \$3 to \$4, Alexander \$3 to \$3.75, Maine Harvey and Ben Davis \$3 to \$3.50, Snow and Wealthy \$2.50 to \$3.50, Baldwin and Greening No. 1 \$3 to \$3.25, Twenty-ounce \$2.50 to \$3. Pippins and Porters \$2 to \$3, Pond Sweet \$2.50 to \$3.25. Mixed varieties \$2 to \$2.75, No. 2, all kinds, \$1.25 to \$2. Crab apples \$1 to \$1.25 a box if good. Pears plenty and dull unless of fancy quality. Native Bartlett's \$1.50 to \$2.50 a bushel. Seckel \$1 to \$2, Rose \$1.50 to \$2, Anjou \$1 to \$1.25, and common cooking pears 40 to 50 cents. Quinces good to choice \$3 to \$3.50. Grapes are plenty. Receipts last week were domestic 297,781 baskets 22,533 carboys, foreign 6788 baskets. Pony baskets Delaware 10 to 15 cents, Catawba and Salem 10 to 11 cents, Niagara 12 to 14 cents, Concord 10 to 11 cents, California Tokays \$1.25 to \$1.75 a carrier. Cape Cod cranberries in large supply, market dull and overstocked at \$4 to \$5 a barrel, \$1.50 to \$1.75 a crate.

Jamaica oranges selling fairly well at \$5.50 to \$5.75 a barrel and \$2.75 to \$3.25 a box for good to choice sound fruit. Valencias are growing scarce, and 126 or 150 counts are jobbing at \$4.50 a box, 176 counts, at \$4.75, 216 and 250 counts at \$3.50 to \$3.75. Jamaica grape fruit from \$5.50 to \$7 a box. Lemons in only moderate demand and fair. Messina and Palermo choice, 300 counts \$3.25 to \$3.50, fancy \$3.75 to \$4.25, 360 and 420 counts \$2.75 to \$3.50. Maori and Sorrento 300 counts choice \$5 to \$5.25, fancy \$5.50 to \$6, 360 counts at \$3.50 to \$4. Malaga grapes from \$3 to \$6.50 a cask as to color and condition. Pomegranates, 105 to 145 in a box, \$2 to \$2.50. Smyrna figs 8 to 15 cents a pound, much depending on mode of packing. California figs 85 cents a box. Jamaica pine apples \$4 to \$6 a dozen as to size. Bananas quiet with small demand.

Vegetables in Boston Market.

The supply of vegetables continues good, as the light frosts have done but little damage on warm lands, but the demand is not as good as a week ago. Prices are nearly steady. Beets and carrots are 40 to 50 cents a box, parsnips 65 cents and flat turnips 35 cents. Yellow turnips 75 to 90 cents a barrel. Native onions 90 cents to \$1 a box, and western Massachusetts \$2.50 to \$2.75 a barrel. York State at \$2 to \$2.25. Leek are 40 cents a dozen, bunches and chives 75 cents. Radishes 50 cents a box. Celery 60 cents a dozen for early, with some Paschal and Boston Market at 90 cents to \$1. Salsify 75 cents a dozen. Cucumbers No. 1, \$5 to \$6 per hundred, No. 2, \$2.50 to \$3.50. Good peppers 65 to 75 cents a bushel, but some as low as 40 to 50 cents. Egg plant higher at \$1.50 to \$1.75 a box. Tomatoes 75 cents to \$1 a bushel, and green at 40 to 50 cents. Squash, Turban \$40 a ton, Hubbard \$35 to \$40, Bay State \$30 to \$35 and Marrow \$25 to \$30. Artichokes \$1.25 to \$1.50 a bushel and mushrooms scarce at \$1.25 to \$1.50 a pound.

Cabbages in good supply at 50 to 60 cents a barrel. Cauliflowers 10 to 12 cents each. Sprouts 12 to 15 cents a quart. Lettuce 25 to 40 cents a box, spinach 15 cents and parsley 15 to 25 cents. Endive 75 cents a dozen and romaine 50 cents a box. Green corn nearly done, but a little offering at \$1 to \$1.15 a bushel. String beans higher at \$2.25 a bushel, shell beans \$2, Sierra and Lima \$1.75 to \$2. Potatoes good supply and quiet, Green Mountain extra 68 cents, good 65 cents. Hebron extra 68, fair to good 63 to 65 cents. Sweet potatoes in good supply, Jersey double head barrels \$1.75 to \$2, Norfolk and Eastern Shore \$1.50 to \$1.62.

The shipments of leather from Boston for the past week amounted in value to \$4,344,713. The total value of exports of leather from this port since Jan. 1 is \$7,914,963, against \$7,914,963 in 1900.

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The total shipments of boots and shoes from Boston this week have been 107,012 cases, against 101,068 cases last week; corresponding period last year, 86,748. The total shipments thus far in 1901 have been 3,865,879 cases, against 3,429,371 cases in 1900.

For several years Hon. Thomas H. Blair of Presque Isle, Me., has had the reputation of having grown the largest potato in the State, which when dug tipped the scales at three pounds eight ounces, but this year he has been exceeded by James Crawford of Van Buren, the most northerly point of the Bangor & Aroostook Railroad. He took one to Bangor which weighed three pounds 81 ounces when dug.

The exports from the port of Boston for the week ending Oct. 19, 1901, included 74,264 pounds of butter and 175,261 pounds of cheese. For the same week last year the exports included 26,768 pounds butter, 242,311 pounds cheese and 72,677 pounds oleo.

The Danish postman wears a rather elegant uniform of dark cloth and rich braid. The service is said to be excellent in every respect. The uniform of the Bulgarian postman is of dark blue cloth with gilt buttons, and green collar and cuffs. The French postman also dresses in dark blue, with very narrow red facings.

The visible supply of grain in the United States and Canada on Oct. 19 included 38,383,000 bushels of wheat, 13,449,000 bushels of corn, 8,044,000 bushels of oats, 1,865,000 bushels of rye, 2,586,000 bushels of barley. Compared with the week previous, this shows an increase of 1,185,000 bushels of wheat, 35,000 bushels of corn, 275,000 bushels of oats, 77,000 bushels of rye and 500,000 bushels of barley. On Oct. 20, 1900, the supply was 36,213,000 bushels of wheat, 8,944,000 bushels of corn, 12,310,000 bushels of oats, 1,617,000 bushels of rye and 2,265,000 bushels of barley.

Four shipments East from Chicago last week 91,983 barrels; week before, 107,319 barrels and 72,000 barrels a year ago by rail; grain, 1,455,000, 75,000 and 1,501,000 barrels same dates; provisions, 62,033,000, 60,089,000 and 65,702,000 pounds same periods.

E is the most common letter. In one thousand letters E occurs 137 times in English, 18 times in French, 145 in Spanish, 178 in German. The exports of dairy products from New York last week included 1232 packages of butter to Liverpool, 2435 to London and 200 to Christiania, 2409 boxes of cheese to Liverpool, 100 to London, 120 to Bristol, 621 to Hull, and 860 to Glasgow, a total of 3857 packages of butter and 4230 boxes of cheese.

The exports from Boston for the week ending Oct. 19 were valued at \$3,967,636, and the imports at \$1,026,338. Excess of exports \$2,941,298. Corresponding week last year exports were \$1,873,554, and imports were \$772,335. Excess of exports \$1,101,219. Since May 1 exports have been \$29,983,013, and imports \$58,451,783. Same period last year exports were \$105,018,556, and imports were \$12,596,417. Excess of exports \$92,422,139.

Beef is firm on choice, with trade good. Extra sides 94 to 94 cents, heavy 84 to 90 cents, good 7 to 8 cents, light grass and cows 64 to 71 cents, extra hinds 12 to 14 cents, good 94 to 11 cents, extra force 7 to 74 cents, heavy 6 to 7 cents, good 64 to 64 cents, backs 64 to 9 cents, rattles 14 to 6 cents, chucks 6 to 74 cents, short ribs 8 to 13 cents, rounds 74 to 84 cents, rumps 9 to 13 cents, and loins 10 to 14 cents, loins 10 to 13 cents.

The shipments of live stock and dressed beef last week included 2332 cattle, 2222 sheep, 13,800 quarters of beef from Boston; 2790 cattle, 3844 sheep, 24,170 quarters of beef from New York; 940 cattle, 1068 sheep from Baltimore; 640 cattle, 1100 quarters of beef from Philadelphia; 223 cattle from Portland; 301 cattle from New Port News; 256 cattle from Norfolk and 275 cattle, 778 sheep from Montreal, a total of 10,436 cattle, 5552 sheep, and 29,070 quarters of beef from all ports. Of these 6011 cattle, 2790 sheep, 30,330 quarters of beef went to Liverpool; 2661 cattle, 4212 sheep, 7540 quarters of beef to London; 919 cattle, 169 sheep to Glasgow; 250 cattle, 1812 sheep, 200 quarters of beef to Hull; 1300 quarters of beef to Southampton; and 105 cattle, 201 sheep to Bermuda and West Indies.

Traffon makes the exports from Atlantic and Gulf ports last week as 266,000 barrels of flour, 2,867,000 bushels of wheat, 786,000 bushels of corn, 2300 barrels of pork, 8,453,000 pounds of lard, 23,044 boxes of meats.

The world's grain exports last week included 8,804,072 bushels of wheat from five countries and 1,222,033 bushels of corn from four countries. Of this the United States furnished 5,532,072 bushels of wheat and 680,033 bushels of corn.

The world's rye crop is estimated at 1,270,400,000 bushels, against 1,436,500,000 last year or 166,400,000 decrease, and against 1,444,800,000 in 1899 and 1,340,500,000 in 1898, showing past three years average 1,407,500,000, or 137,000,000 more than present crop. The Liverpool Corn Trade News says: "If there is anything in the theory recently advanced by American writers, that the price of wheat is frequently more affected by the scarcity or abundance of rye in Europe than by any other contributory cause, then the foregoing figures are worth careful study."

More than five hundred thousand bushels of potatoes were shipped over the Bangor & Aroostook Railroad during the month of September, breaking all records in the history of the road for any month in this sort of freight. For some time it was thought that the September shipment would be a record breaker, but the figures just announced are far beyond expectation.

Lambs are about steady, with the demand only fair. Lambs 64 to 84 cents, fancy and Brightons 94 to 94 cents, yearlings 4 to 6 cents, muttons 5 to 7 cents, fancy 74 cents, veals 7 to 10 cents, fancy and Brightons 10 to 11 cents.

Eggs are in good demand, and prices have been firm. There are not many Cape and nearby fancy, and they sell at 25 cents, but Eastern and Northern choice fresh are to be had at 22 to 23 cents and fair to good at 17 to 20 cents. Western selected candied 21 to 22 cents and uncandied 17 to 20 cents. Ditties \$3.75 to \$4.25 a case. Refrigerator eggs moving fairly well at 16 to 17 cents for May, 17 to 18 cents for April packing; 800 cases sold from storage last week, leaving the stock 131,073 cases now, against 118,881 at same date last year.

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MASSACHUSETTS PLOUGHMAN

BOSTON, MASS., NOVEMBER 2, 1901.

Who so poor, in these days of prosperity, as not to be robbed of certain jewels?

Dr. Barton of New York wouldn't have fired that divorce cannon, even if it had been adopted.

The big tobacco battle between the American and English corporations is beginning to smoke.

We are glad to know that the missionary influence of Boston is felt throughout the country.

Hockey is becoming a formidable rival of basket ball in the educational institutions devoted to the fair sex.

It was a case of "step lively, Porto Ricans," and even then they couldn't see everything about the Hub.

Fortunately the Shark recently added to the United States may doesn't have to turn on its back before making an attack.

The man who stole a load of wood and borrowed the owner's cart in which to peddle it has certainly a fine sense of artistic effect.

We are not surprised to hear the statement repeated on good authority, that too much affection among the sheep is bad for the shepherd.

We shall soon reach a point at which the victim of the god Alcohol will be the only person to know definitely whether or not he is drunk.

The rival of the American hog, we are told, flourishes in Denmark. It has been our modest and comforting belief that he flourishes everywhere.

If the carelessness of hunters continues Maine will have to appoint an examining board to decide just how many of her fall visitors can be trusted with firearms.

The lobster is in need of protection, and even those admirers whose affection is purely selfish should discourage any attacks upon him out of season.

Persons who are unfamiliar with the technicalities of football are not unnaturally disturbed at the reiterated statement that the Harvard team must learn to "fight."

A contemporary wonders what the Chicago burglars are going to do with \$75,000 in postage stamps. Perhaps they are going to enter the field of literature.

The lunch counter proprietor undoubtedly has as much right to jealousy as any other fellow, but his jealousy is not altogether up to the standard of picturesque romance.

Fighting Bob is not the only person who draws conclusions from incomplete evidence, nor, unfortunately, is he the only person who makes a book of his conclusions.

Here's good luck to the postoffice clerk who has been given another chance to make something of his life; the next temptation will probably find him with more strength to meet it.

"Donnie, Sweet Bessie!" if she were still in existence would soon be applying for a card in the new library which the indefatigable generosity of Mr. Carnegie has recently presented to Dundee.

The Museum of Fine Arts is the richer by two old waistcoats. The fact doesn't seem so very important until we realize that they were worn at Harvard graduations back in the eighteenth century.

A contemporary declares that the line of descent is unbroken from the medieval armor to the modern bolted shirt. We may be mistaken in our knowledge of costumes, but how about the ruffled bosom?

We are an athletic-looking nation, at least so long as the present style of masculine garment continues among us. However, it is more sensible to pad out at the shoulders than to lace in at the waist.

Now is the time for the wise man who has planned to buy his Christmas presents well ahead of the season to begin operations. Despite which fact the week before Christmas will probably find him hustling about as usual.

Those who object to the explosive character of the remarks resurrected by the Court of Inquiry should bear in mind that profanity, even since it was invented, has been a safety valve for humanity in moments of extreme nervous pressure. And then, to paraphrase the coster ballad, it isn't just the thing one says, but just the way one says it.

A newspaper account that says that the shabby man who was suspected of meditating an attack on President Roosevelt at Farmington was pounced upon by forty-two others, reflects little credit on the garb worn by the President's defenders. Perhaps they were in disguise.

While Sousa is enjoying his London ovation it seems the psychologist moment for some of us to admit that there are other forms of music, and that on occasion Sousa, despite his medals, is a noisy rascal after all.

When the Epicurean Club sits down to dine the menu is even more artistic than might be imagined at first thought. The problem of the chef, dining his fellow experts, seems to be not to produce expensive combinations, but to show the wonders that can be accomplished with the humblest viands.

The reign of mentality is much in evidence when there arises an orator who challenges all comers for \$10,000 a side and posts \$1000 as profit money. The offer suggests the humorist's comments on the proceedings of the modern prize fighter, with the exception that here is no pretence of anything but verbal blows, counters, and the conquering solar plexus.

"The stein upon the table," referred to by President Pritchett, has been taken with amazing over-literalness. It is hardly supposable that President Pritchett meant to suggest that the future Tech student should be always recognizable by a stein suspended at his belt, after the fashion of the tin cup carried by a soldier in full marching out-

fit; nor, on the other hand, is it likely that he would faint with horror if he saw a student and a stein in close proximity.

The editor of the Oregon Agriculturist says that he was lately told by one fruit grower that there was no profit in the business now, as the agricultural papers have led the farmers to grow more fruit than they can sell. Another told him that farmers could have made money on apples this year if the papers and horticultural commissioners had not induced so many to spray their trees, which had been the means of causing a light crop. Then he found a man who read the agricultural papers, sprayed his trees early and often, and had a good crop, which he was selling at a high price, and he seemed to be happier than either of the others. There are other editors who have found similar contradictory opinions, but we think the moral is, if one wants to be successful in his line of business, he should read some good agricultural paper adapted to his line of business carefully and understandingly, and follow its advice thoroughly, and he will be successful and happy. Some try experiments in a half-hearted way, which are not a fair test any more than it was when the man tested a featherbed by putting one large feather on a rock and sleeping on it. He did not find it any better than a straw bed.

The export of hog products from the United States for the year ending June 30, 1901, were the largest single item in our exports, having been \$119,661,903, against \$84,908,638 in 1900. This year they exceeded by \$34,753,265 the exports of iron and steel. These figures show the total value of hog products exported from the United States in 1901, the details for 1901 being: Lard \$46,590,148, bacon \$37,499,026, hams \$22,842,778, salted and pickled pork \$9,926,633, fresh pork \$2,424,537, and canned pork \$708,381. But Denmark is likely to become an active competitor for the trade, having established twenty-five co-operative slaughter houses with 549 hands employed. Since the first one was established in 1888, slaughtering 23,407 swine, valued at 1,021,727 kroner or crown, the business has steadily increased up to 729,171 killed, worth 31,214,713 kroner, the kroner being worth 26.8 cents, or the product about \$8,000,000. While this is less than one-tenth of the amount exported by the United States, our exporters will do well to keep a careful lookout for their competition. They may have reached about their limit, as the number and value has not increased but about 100,000 since 1896, and the value about \$1,500,000.

When to Market Produce.
With perishable goods, the producer does well to seek the best nearest market before the articles have reached such a state of maturity that they will endanger in transit; but with farm products that can be kept indefinitely, the question of holding is more complicated. Undoubtedly there are extremes in holding too long, and in rushing to market too early. Some farmers are so convinced that holding goods is bad policy, that they rush products to market almost straight from the field, and sometimes in a shabby half-ripe condition, and with the still clinging to them. That this is bad policy has been demonstrated over and over again. The first rush of almost any farm product is overwhelming, and prices quickly break.

In a season of large yield this is more apparent than when there is a scarcity. Then every one is sure of a glut and break in prices, and each one tries to get ahead of all others. The result is they all get their goods in market about the same time. It is far better to hold off a few weeks or months. Let the first glut work itself out, and then when prices recover a little, ship the goods, but never in very large quantities. It is better to trust your crops in installments. A severe loss may thus be saved. If prices are poor when you ship them, the whole season's crops will sell for unprofitable sums.

In holding goods the matter of shrinkage must be considered. In the case of hay and grains this amounts to a good deal in the course of a few months, but it is almost unimportant when held only for a short time. New, green hay never brings the same as dry hay, and hence the question of shrinkage is partly discounted ahead.

The loss through moulding, rotting and decay in one way and another must be considered. If perfect at storage conditions are provided this loss should be very little, but even then there is more or less danger of loss from rats, mice and insects. This must be thoroughly discounted whenever anything is held for five or six months.

In the cities mammoth storage houses are erected for keeping all farm products indefinitely. Speculators purchase goods when prices are very low and store in these houses for a rise in price, paying meanwhile high rent and commissions. Many farmers have reasoned that if these speculators and dealers could find it profitable to store their goods in winter, they could do it likewise at a profit on the farm. This is generally false reasoning for the simple reason that the storage houses provide absolutely against any loss from insects or rats, and to a large extent against shrinkage. The farmers cannot preserve their products under similarly favorable conditions. Moreover, the speculators are right in the market ready at a moment's notice to take advantage of high prices, to sell in enormous quantities. This gives them an advantage over the farmer in every transaction.

Garden Farming.
In a bulletin lately sent out by the Department of Agriculture we find much matter in regard to the growth of that industry, which is to us more interesting than the schedule of transportation rates that forms so large a part of the bulletin.

Until about forty years ago it was scarcely recognized as a distinct agricultural industry excepting within a few miles of the larger Northern cities. People had not become habituated to caring for vegetables and fruit out of season of their natural growth in their own locality. The changed conditions after the close of the civil war and the surplus of labor in the South tended to build up the business there, at first near the coast, where water transportation could be had, or directly along the lines of railroads.

But the handling of such perishable products not only led to better service upon those roads, but contributed not a little to the building of new roads as the business increased, until thousands of acres formerly in rice, corn or other cereal crops are now in vegetables and fruits for northern markets.

In late autumn and early spring Florida and other Gulf States furnish the first supply, and the season advances northward at the rate of about fifteen miles a day until the Central and Eastern States can furnish

their quota. The greenhouses in New England supply the demand in winter during the few months of winter when even Florida has no crops to be marketed.

It is said that the first consignment of Southern garden truck to New York was in 1847, when the clerk of the Charleston boat, who had been entertained by the citizens members of a fire company, brought on his next trip mint for their juleps, lettuce and radishes and two quarts of strawberries, which were on exhibition in a store window, the first that had ever been seen in New York in the winter.

The first all-rail shipment of garden truck from the South to New York did not occur until May 26, 1885. It came from Norfolk, Va. Eastern North Carolina sent her first consignment March 9, 1887, and Charleston, S. C., April 12, 1888. The first car of oranges reached New York Oct. 25, 1888, and the first refrigerator car with strawberries March 30, 1889, both from Florida.

About 1866 or 1867 two or three of the more progressive farmers near Crystal Springs, Miss., sent a few peaches to their nearest market, New Orleans. The next year others joined them, and added plums and pears to the list. In 1873 there were 20,000 pounds a day, and in 1877 from 40,000 to 60,000 pounds a day of peaches, with nearly as much from Terry. In 1875 they began shipping tomatoes. In 1878 they sent less than a car a day; in 1885 from five to eight cars a day, and in 1895 not less than forty to fifty-five cars were being sent to northern markets.

For such traffic refrigerator and ventilated cars are used, and special fast service given. The time between the South and New York is fifty-five hours for 922 miles. The banana trains make the same distance in 47 hours. From Centralia, Ill., to Chicago, 252 miles, is made in ten hours and five minutes.

The first refrigerator cars were only old freight cars with double floors, roofs and slides, and sawdust packed between to keep out heat or cold. Then a large box of ice was put in at the door near the centre of the car. Now it is estimated that there are sixty thousand well-built refrigerator cars on the railroads in the United States, Canada and Mexico, with a carrying capacity of 1,000,000 bushels of grain.

There are lines of steamers from Norfolk to Philadelphia, New York and Boston devoted almost entirely to carrying garden truck, and in the height of the season they send several loads a day, beside daily lines to Baltimore, Washington and Richmond. There are also many steamers from Charleston, Savannah and Jacksonville that run to New York and Boston.

The lands that were not thought worth more than \$2 to \$5 an acre before truck farming began are now held at from \$40 to \$500 per acre, according to their nearness to market, a light, sandy soil being preferable. The department divides the truck-farming districts as follows, though in some cases they may be said to overlap each other:

1. New England district, embracing New England States.
2. New York district, embracing New Jersey, Pennsylvania and the more southeasterly section of New York, including Long Island.
3. Peninsula district, embracing Delaware and the eastern shores of Maryland and Virginia.
4. Baltimore district, embracing Maryland and the northern portion of Virginia.
5. Norfolk district, embracing southeast Virginia and northern North Carolina.
6. Wilmington district, embracing the southeastern portion of North Carolina and northeastern portion of South Carolina.
7. Charleston and Savannah district, embracing the southeastern portion of South Carolina, and the entire coast country of Georgia.
8. Florida district, embracing the peninsula of Florida.

The cost of labor is the highest in New England, as the greenhouses call for more skilled labor, but the average pay without board is \$1.35 a day for men and 75 cents a day for boys. Around New York and Philadelphia \$1.25 to men and 60 cents to boys. Peninsula district, \$1 to men, women 60 cents, children 45 cents. Baltimore, men 90 cents, women 60 cents, children 40 cents. Norfolk, men \$1.20, women 80 cents and 40 cents to children 45 cents. Wilmington, men 85 cents, women 75 cents, children 50 cents. Charleston and Savannah, men 90 cents, women 65 cents, children 40 cents. Florida, men \$1, women 75 cents, children 45 cents.

Much work is done by piece work, and for picking string beans the rate varies from ten cents to fourteen cents a bushel, peas fifteen to twenty cents, tomatoes three to four cents, cutting and trimming cabbages 25 to seven cents a barrel, digging potatoes ten to twelve cents a barrel. The cost of labor per acre varies much for the same crop in the different districts, New England being the highest in nearly all cases, and New York generally next. We will give but a few rates: Asparagus from \$36 to \$20 per acre, beet \$75 to \$10, celery \$98 to \$17, cucumbers \$38 to \$77, eggplants \$77 to \$22 in Florida. These two last evidently include the crops under glass in New England.

In cost of seeds or plants to the acre there is not a great difference, but in fertilizers the cost is much heavier in the two northern districts, as the truck farmers are more liberal with it. The largest vegetable industry under glass is around Boston, and it is said that within a radius of twenty-five miles around the city there are over two hundred acres under glass, mostly devoted to vegetables. In many instances four crops a year are grown. While ordinary hands are paid about \$40 a month, men of more experience get from \$45 to \$60, and the superintendent of a large plant may get \$2000 to \$2500 a year. An average modern house is about 250 by forty feet square, and cost \$3000 to build. In some all the soil is sterilized to the depth of three or four inches before it is put in the house, by having steam forced through it until it reaches as high as 250°. Many of them are lighted by electricity to force better growth of plants.

Vegetables commonly known as greens, such as kale, spinach, sprouts, and lettuce, begin to arrive early in December, and as this is close to the time that the supply from Northern truck farms is exhausted, it is virtually insured New York a supply of these vegetables the year round. Florida begins to ship strawberries in February, and in March beans, peas, asparagus, cabbages, potatoes, cucumbers and tomatoes begin to move northward. By the latter part of April or the early part of May the supply has become so plentiful that people in the modern market are able to enjoy many of the varieties of vegetables grown on the Southern farms, while a few decades ago the wealthiest citizens were unable to procure a single vegetable out of season. Peaches from Georgia begin to arrive in New York about the middle of June, and the markets are supplied with Southern melons from July to October.

In the years 1896, 1897 and 1898 New York received 2,436,715, 2,632,776 and 3,926,033 packages (barrel, crate, box or basket) of vegetables, respectively, from Southern

territory, and in the single month of June, 1899, over a million packages were received from the same sources. During the height of the season it is no unusual sight to see piled on a single railroad wharf along the river front in New York city 100,000 Southern watermelons awaiting delivery, while as many as 200 carloads of Southern peaches have arrived in a single day.

New York Milk Supply.

A few years ago it would have been considered impossible to supply New Yorkers with fresh milk from the northern borders of the Empire State and from a part of Vermont. There are now delivered to local dealers every night thousands of cans of fresh milk brought by special trains from the St. Lawrence River Valley, along Lake Champlain, the Mohawk Valley and from the farming regions along the Ontario and Western, the Lackawanna, the Lehigh and the West Shore railroads. Milk of good quality can be had just about as cheap in New York as in the cities and villages up the State.

Few persons comprehend the importance of this far-reaching industry, the metropolitan milk supply. Milk stations are being built along all the railroads at intervals of about ten miles, and to these depots the farmer hauls his milk daily. The new industry is a good thing for the farmer. It brings him a sure revenue once every month and gives him a good market for one of the principal products of his farm. Special attention was given to the milk business by the New York Central Railroad and its tributary lines last summer. The business is in charge of Robert Westcott of New York, the son of the founder of the Westcott Express Company, who died suddenly at Richfield Springs a few months ago. This is Mr. Westcott's third season with the New York Central. Prior to that time he had charge of the milk business on the Lehigh road. That he has been successful is shown by an increase of fifty per cent. in the volume of business over last year.

The price paid by Mr. Westcott's agents to the farmer varies with the seasons. In June, July and August, when there is the greatest supply of milk, the price ranges from 75 cents to \$1 a hundred pounds, or about 45 cents. In September and October the farmer gets about \$1.20. Next month the price will jump to about \$1.30. The yearly average is about \$1.17 or \$1.20 a hundred pounds.

The farmer's contract ends when he delivers the milk at the milk station. Then the milk is properly aerated. All the animal heat must be cooled by natural processes before it is placed in the cans. If it is not properly cared for at the place of shipment it is apt to turn up in New York sour. Little trouble of this kind is experienced by the milk gatherers, as experienced men are in charge at all stations and they give the milk careful attention.

Milk trains on fast schedules carry the supply to New York. Special refrigerator cars are used. Ice is placed about the milk cans in the summer months. At the sides of the car the temperature is about forty-five or forty-six degrees, while in the centre it is about ten degrees higher. As the cold season advances there is no need for ice in the cars. Ice houses have been built near the principal stations, and during the winter the milkmen harvest the summer's supply. Many improvements have been added to the service during the past summer, so that milk is delivered to Mr. Westcott's customers in New York within twenty-four hours.

Two heavily loaded milk trains pull into New York every night. In the summer months they are made up of from fifteen to twenty cars. One train runs from Oneida over the New York Central to East Albany. It picks up milk cars at Utica from points as far north as Ogdensburg. A train also gathers up the milk along the Delaware and Hudson road to Rouse's Point and from part of Vermont, while a West Shore train brings milk from along that road as far west as Syracuse.

These trains are consolidated at East Albany and hastily despatched to New York. About three thousand cans are now picked up daily along the New York Central's lines, about one thousand five hundred along the Delaware and Hudson and a like number along the West Shore road. The milk is bought from the farmer for a little more than two cents a quart and sold in New York at prices ranging from 3½ cents on the East Side to ten cents a quart among those who are better able to pay. Although the milk gatherers pay freight charges, the cost of ice for cooling purposes, and employs skilled workmen in each milk station, there is still a sufficient margin to make the business highly remunerative.

The farmers have an association to keep up the price of milk. The New York milk trade is well liked by the farmer, because of the despatch with which he disposes of his milk and his sure revenue. A few years ago the milk was disposed of at the cheese factories and the creameries, but the new method of selling milk is by far the most popular with the farmer.

Engine 999, once the pride of the New York Central road, can be seen any day hauling a milk train up or down the road.—New York Sun.

Secretary of the Navy John D. Long has recommended an appropriation of nearly \$100,000,000 for the increase of our navy. This seems like a large sum, but when we remember that it is to be divided among some eighty million people it is not much. If raised by a direct tax it would be but little for the man whose property did not exceed \$10,000. If raised by internal revenue, those who use whiskey, beer and tobacco would not feel the increased cost, and neither would the class that use imported wines and cigars, or wear imported clothing and jewelry. The United States have not claimed to possess a first-class navy in times past, but they have no reason to be ashamed of their achievements. In the Revolutionary War the little navy assisted by the privateers succeeded in winning some victories over the powerful navy of Great Britain. In the war of 1812 we won more battles on the water than on the land. In the civil war our navy, after it had been created, accomplished much in reducing the forts of Southern seaports and maintaining the blockade, and the achievements of the navy in the war with Spain are familiar to all, and cannot be blotted out even by the unfortunate controversy between two rival leaders. As has been said, we cannot be a power among nations without a good navy, and we cannot have a navy unless we pay for it. Let us then "in time of peace prepare for war," and build up a navy that will command respect among the nations of the world.

The sugar crop of this year is reported as an increase of 1,177,842 tons over last year, of which 623,000 tons is of cane sugar and

554,000 is beet sugar. The cane sugar of Cuba shows an increase of about double last year's crop, being 630,000 tons this year. Louisiana has about double the small crop it had last year, and Porto Rico has about eighty thousand tons, nearly three times as much as last year. Europe reports 4,098,000 tons of beet sugar, being 351,000 tons more than last year, and the United States 78,800 tons, or 4115 tons more than last year. We would be glad to see the production of both beet and cane sugar in the United States increase more rapidly in the United States if we did not think the farmers could grow some other crop more profitably than those crops. Sugar cane producers in Louisiana and Texas are learning that in many cases they can grow market products and fruits for Northern cities more profitably than to grow sugar. The beet growers in the most favorable localities get less than \$1 a day for growing that crop as often as they do more, and each year there are factories being closed or converted to other uses because farmers cannot afford to grow the roots for the prices paid. They cannot compete with Germany, where a man works for forty cents a day, and women do most of the work in the beet field at twenty cents a day, while the sugar factories find their profit in the bounty paid them by the government upon the amount exported. If Cuba can, as is said, grow one million tons a year, why try to exclude her sugar for the very doubtful prospect of helping an industry that produces about seventy-five thousand tons, at little profit to the farmer, whatever it may be to the sugar manufacturer?

Notes from Washington, D. C.

"The great mass of our citizens," said Dr. Salmon, the Chief of the Bureau of Animal Industry of the Department of Agriculture, "have no conception either of the disease found among animals in the abattoirs, or of the enormous amount of work which our Department is doing to protect them from diseased animal products. It is only through the examination of the pathological specimens actually found by the meat inspectors that we ourselves are able to appreciate the importance of having experienced and educated men on guard to withdraw carcasses so affected from the meat supply of the country."

No public work, however, can long be sustained or carried to the highest degree of efficiency unless the people of the country understand its objects and value and become interested in it. This being true as a general proposition, we can hardly expect the meat-inspection service interfering, as it must more or less, with some of the wealthiest and most powerful industrial organizations in the world, to be conducted with vigor and a rigid adherence to correct principles, unless there is a popular appreciation of the value of the work to every consumer of meat.

To give some idea of the frequency or infrequency of disease in our meat-producing animals, I might cite some statistics covering the two fiscal years beginning July 1, 1897, and ended June 30, 1899. They are especially valuable on account of the large number of carcasses inspected during that period.

"During the two years mentioned, the number of cattle examined reached a total of 8,819,227. Of these, 19,454 entire carcasses and parts of 23,106 additional carcasses were condemned. This means that twenty-two carcasses in ten thousand were entirely condemned, and that twenty-six carcasses in ten thousand were partly condemned, making a total of forty-eight carcasses in ten thousand condemned in whole or in part.

The number of sheep inspected during this period reached 11,110,776, of which 8394 carcasses, or 7½ per cent thousand, were wholly condemned, and 650 carcasses, or 0.6 per cent thousand, were condemned in part. The number of hogs slaughtered under inspection during the same period was 44,841,779, of which 106,535 carcasses were wholly condemned, being about twenty-four per cent thousand, and 28,491, or thirteen per cent thousand, were condemned in part.

Mr. Ernest Schenck, president of the Crystal Palace Company of London, England, is now in Washington in the interest of a purely American exhibition of manufactured commodities and agricultural products to be held in the Crystal Palace during the summer of coronation year, beginning May next and continuing until September. He is now visiting the capital in the hope of enlisting the aid of the government, so that the enterprise may have the benefit of official dignity which it would not otherwise have.

About Dec. 1 next the Department of Agriculture will begin the distribution of vegetable and flower seeds, the amount this year being about twice the quantity sent out last year, thirty-seven million packets to be distributed this winter. Notwithstanding the extra labor incurred with this in increase, the preliminary work has progressed far more rapidly than in past years.

The Department will make many new departures in broadcasting the supply of seeds for farmers of the United States, inasmuch as cotton and forage crop seeds will not be given to every "Tom, Dick and Harry," no matter whether he lives on a mountain or in a valley, but will be sent only to those sections adapted to the raising of the particular variety. The same method will be followed with the Havana and Sumatra tobacco seed, which will be sent only to Florida and to New England, where their culture has proven successful under tobacco area, producing the necessary tropical conditions.

"The visit of Mr. Emery to the Orient is bearing fruit, for we have already received letters from many butter and cheese exporters along the Pacific Coast, saying that they have been in communication with firms in China and Japan, and the result has been orders for consignments of butter and cheese each week.

Of course, it must not be understood that the natives of the Orient are heavy eaters as the Americans, for the majority of them live on nothing but rice and other light foods. But it is the more wealthy people who are beginning to eat heavier foods, and it is this class which the United States is catering to supply. With such arrangements as can be had today, we are able to compete with Australia for the Japanese trade, but not until the Pacific vessels are equipped with refrigerating compartments will we be in a position to enter into active competition with that country for the business in China and East India. When the time comes, however, when ship owners decide upon equipping their boats with refrigerating apparatus, then the only question will be, "Will the Pacific coast shippers be willing to meet Australian prices?"

Why is it, Major Alford, you speak only of Pacific coast shippers in conjunction with this new dairy product export trade, and

not of the Eastern?"

"The reason is very plain. Until a few years ago the East supplied the Pacific coast with all the butter and cheese needed in that section, but lately the West is manufacturing these commodities for itself until now they have more than they can use. To send them to the Eastern States would result in an overproduction in the United States, tending toward a reduction in the prices of both butter and cheese. To offset this tendency toward the creation of a stagnant market, we have endeavored to sell the overproduction of the Pacific Coast at a new market, which would not injure the Eastern makers. The Orient we found to be the place, and in a few years, from the reports we have already received, unless the Pacific Coast makers increase their output, that section will again draw upon the East for what products are needed by their own people. As for the East today, it is well taken care of by the Eastern dairymen."

"Along the line of exportation of dairy products, I might say that the preliminary work for the inspection of dairy export goods is progressing just as satisfactorily as we have hoped, and I have every reason to believe that we will commence the work of inspection about the first of the coming year."

Farmers residing in the valley of the Duranoe River in France, do not know the occasion for the use of fertilizer. They irrigate their crops from this stream whose waters are exceptionally fertile, and carry at the ordinary maximum flow one thirty-third of their weight in alluvium. This deposit, where one foot of water is used for irrigation, amounts to about forty one tons of sediment per acre, rich in plant food and more valuable than manure. It is a noted fact that poor lands irrigated from the Duranoe River improve each year until after a few seasons' irrigating there is a high and permanent degree of fertility with resulting heavy crop yields. GUY E. MITCHELL.

Literature.

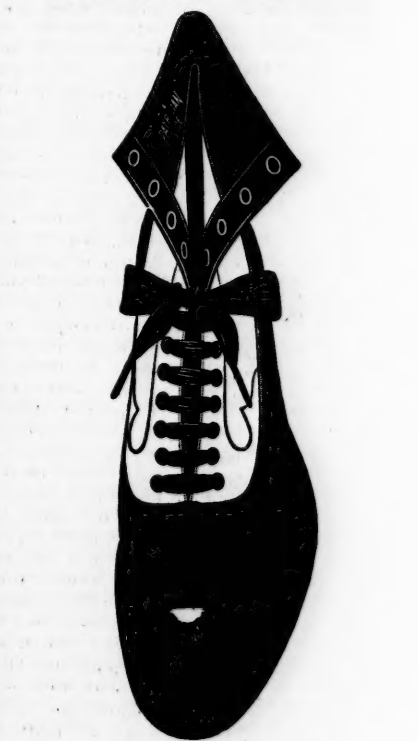
That delightful little gift book "The Angora Cat," by Robert Kent James, published by James Bros., Boston, has received no end of compliments, and is truly doing a great deal for the cause of cats.

"A Source Book in the History of Education for the Greek and Roman Period," by Paul Monroe, A. M. Ph. D., adjunct professor of the history of education, Teachers College, Columbia University, will be published during October by the Macmillan Company.

The November Bohemian promises to be full of interesting reading. Its new form pieces and is proving a great success. The contents of the Popular Science Monthly for November, apart from reviews, discussions and notes, are: "On the Tendency of Species to Form Varieties," Charles Darwin and Alfred Wallace; "The Story of Cahow," Professor A. E. Verrill; "Psychiatry—Ancient, Medieval and Modern," Dr. Frederick Lyman Hills; "The National Control of Education," Sir John E. Gorst; "The Evolution of the Human Intellect," Professor Edward L. Thorndike; "The Origin of Sex in Plants," Dr. Bradley Moore Davis; "The Fishes of Japan," President David Starr Jordan; "The Omen Animals of Sarawak," A. C. Haddon, F. R. S.

The South has for more than one generation been the stage for a fatal drama. Among the earlier scenes there enacted were those presented in Mrs. Stowe's romantic "Uncle Tom's Cabin." They were followed by the terrible realism of the civil war. Then came the somewhat melodramatic Reconstruction Period portrayed in Tourgée's "A Fool's Errand." We are now witnessing another extraordinary development in the disfranchisement movement, which, like the earlier acts of the great drama, has for its motif the disquieting question, and has its best presentation in Charles W. Chesnut's powerful story, "The Marrow of Tradition," a novel just from the press of Houghton, Mifflin & Co., that will recall at many points its great precursor, "Uncle Tom's Cabin."

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Our Homes.

Color vs. Temperament.

Much thought has of late been devoted to the subject of color as affecting the environment of individuals, and it is no doubt true that sensitive temperaments are influenced greatly by color, especially in their immediate surroundings. Much of the prejudice which has arisen against the wearing of "deep mourning," as it is called, can be easily traced to this cause. While sombre black may harmonize with the feelings of those recently bereaved, its continued use is more than likely to affect the general health, because depressing to the spirits; and not only the wearers, but all who come in contact with them, share in the gloom such a garb radiates.

To Nature herself we can go for instruction in the meaning which color conveys. During our varying seasons the entire gamut of color is drawn upon to produce the effects which mean so much to nature-lovers. The wildest conceits of artists in color are outdone by the coloring of our autumn woods, and the painter sits in despair in contemplation of the glory of the sunset sky.

An artist would be deemed insane who should attempt to reproduce the wonderful play of prismatic coloring in the mist at the foot of the great falls of Montmorency in Canada, such as was witnessed by a party of travelers on one of the recent perfect autumn days, yet the phenomenon will never fade from the memory of those privileged to see it. Sleeping or waking, their vision will be haunted by that wonder of color.

Injudicious use of color is, however, productive only of the grotesque and cheap. Here, again, Nature instructs us. Her finest effects are always outlined against a neutral background. The flaming colors of the sunset which enters our soul are intensified by the masses of sombre purple or soft gray cloud against which they are thrown, and the regal magnificence of the autumn foliage is best comprehended among our northern mountains, which furnish wonderfully effective backgrounds of gray rock and the dense, dark foliage of the conifers.

We should weary of the autumn glow were it perpetual, but when it is succeeded by the russets and grays, and later by the mantle of pure white which changes the face of our mother Nature so completely, how we treasure the fleeting glimpses we had when the autumn days were rarest.

Just as the varying seasons with their complete color schemes affect us temperamentally, so are we influenced by color in dress and surroundings. Nothing so expresses the individuality of a person as the use of color. All phases of character, from the extremely vulgar to the ultra refined, find expression by this medium, and study should be encouraged along this line. We learn to associate certain colors with the woman who has mastered her own requirements in this respect.

It is said that there are no old women nowadays. It is true that women who keep the heart and mind fresh and attuned to the best influences do not appear old, or seem to be overcome by the weight of years. It is not also true that the spirits of the woman of middle age are no longer depressed by the fact that she is to be allowed for her use only the soberest of colors. That all others must be abandoned when the first flush of youth is past, was, within the memory of many, almost compulsory.

Today the woman of refinement consults her own taste and temperament, and believes she can wear whatever she looks best in, and which will contribute most successfully to the aura of cheerfulness and harmony with which she endeavors to surround herself. True, there is much bad taste still in evidence, but the evolution is steady, if gradual, and the homes and the home-keepers of the future will have great possibilities of beauty and charm.

ELIZABETH ROBBINS BERRY.

The Workbox.

CHATELAIN BAG.

[Fleur De Lis Design.]

Materials—Three spoons of purse twist, 5 bunches of beads. Each figure requires 18 stitches. When completed, the bag will be 9 1/2 inches by 5 inches wide. Chain 14 stitches and join. Always chain 1 and 1 double crochet in second stitch in beginning every row to keep work even, counting 1 stitch. (Double crochet is insert needle in stitch, draw silk through, then through 2 stitches on hook.) String beads on silk before commencing to crochet.

1st row—Nine double, (*) 1 bead, 17 double, repeat, 3 times.

2nd row—Five double, (*) bead, 2 double, 3 beads, 2 double, 1 bead, 9 double, repeat from (*), 4 double.

3rd row—Four double, (*) 3 beads, 2 double, 1 bead, 2 double, 3 beads, 7 double, repeat, 3 double.

4th row—Five double, (*) 1 bead, 1 double, 5 beads, 1 double, 1 bead, 9 double, repeat, make four double.

5th row—Four double, (*) 5 beads, 1 double, 5 beads, 7 double, repeat 3 double.

6th row—Three double, (*) 2 beads, 2 double, 1 bead, 1 double, 1 bead, 1 double, 1 bead, 2 double, 2 beads, 5 double, repeat, 2 double.

[Hereafter B will stand for bead, d for double crochet.]

7th row—Three d, (*) 2b, 2d, 1b, 2b, 2d, 2b, 5d, repeat, 2d.

8th row—Four d, (*) 2b, 2d, 3b, 2d, 2b, 7d, repeat, 2d.

9th row—Eight d, (*) 3b, 15d, repeat, 7d.

10th row—Eight d, (*) 1b, 1b, 1b, 15d, repeat from (*).

11th row—Four d, (*) 2b, 1b, 2b, 1b, 2b, 1d, 2b, 7d, repeat, 3d.

12th row—Three d, (*) 5d, 1b, 1d, 1b, 5d, 5d, repeat, 2d.

13th row—Like 12th row.

14th row—Four d, (*) 3b, 1d, 3b, 1d, 3b, 7d, repeat, 3d.

15th row—Seven d, (*) 5b, 13d, repeat, 6d.

16th row—Six d, (*) 2b, 1d, 1b, 1d, 2b, 11d, repeat, 5d.

17th row—Like 19th row.

Now commence second row of design.

18th row—Chain bead in first stitch, (*) 7d, 3b, 7d, 1b, repeat, 7d.

19th row—Chain bead in first stitch, 1b, 2d, 1b, 4d, 1b, 2d, 1b, repeat.

20th row—Chain 1 bead, 2d, 3b, 7d, 3b, 2d, repeat.

21st row—Chain 1 bead, 2b, 1d, 1b, 9d, 1b, 1d, 2b, repeat.

22d row—Chain 1d, 5b, 7d, 5b, repeat.

23d row—Chain 1b, 1d, 1b, 2d, 2b, 5d, 2b, 2d, 1b, repeat.

24th row—Chain 1 plain, 2b, 2d, 2b, 5d, 2b, 2d, 2b, repeat.

25th row—Chain 1 bead, 1b, 2d, 2b, 7d, 2b, 1d, 1b.

26th row—Chain 1 bead, 1b, 15d, 1b.

27th row—Chain 1 double, 1b, 15d, 1b.

28th row—Chain 1 double, 2b, 1d, 2b, 7d, 2b, 1d, 2b.

29th row—Chain 1b, 1d, 5b, 5d, 1b, 1d.

30th row—Like 29th.

31st row—Chain 1b, 1b, 1d, 3b, 7d, 3b, 1d, 1b.

32d row—Chain 1b, 2b, 13d, 2b.
33d row—Chain 1b, 1d, 2b, 1d, 2b, 1d.
34th row—Chain 1b, 1b, 15d, 1b. Now commence first figure again.

35th row—Chain 1b, 1b, 7d, 1b, 7d, 1b.
36th row—Chain 1b, 4d, 1b, 2d, 3b, 2d, 1b, 4d, repeat from third row.

Work four rows of figures, then divide bag evenly, and work each side to fit clasp.

Finish bottom with a bead fringe. I will answer any letter in regard to materials, when stamp is enclosed. The Gainsborough pillow given a few weeks ago I can furnish all materials for \$2.

EVA M. NILES.

Suggestions as to Eating.

You should avoid eating immediately after a strong corporal or mental exertion, says the Kneipp Water Cure Monthly. You may thereby interfere considerably with your digestive apparatus. Strong emotions, fear, excitement, sorrow and fright, prevent the secretion of gastric juice, and it is therefore advisable to abstain from eating immediately after any such occurrence.

After your meal you should avoid any strong corporal exertion and also abstain from any mental strain.

It is very advisable to have a short after-dinner nap, if possible. A healthy person always has an inclination to close his eyes and sleep a little after his dinner, writes Doctor Weil, and if you observe the dumb animals, they do the same.

But this after-dinner nap should not be extended too long, never longer than an hour, otherwise, instead of being refreshed thereby, one will be tired and lazy.

To persons who suffer from stomach complaints and disorders, it is not advisable to take an afternoon nap. They generally, if they have indulged in an after-dinner nap, feel out of sorts, and are bad-tempered in consequence. These sufferers should always remember the old well-known saying:

After dinner, as a rule, stand still, Or walk a thousand paces at your will.

To these patients, however, a short nap before dinner is very advisable.

It is of utmost importance not to retire to bed immediately after supper. At least wait to three hours should elapse before going to bed. The more copious the last meal, the longer time one should wait before retiring. Never compel or force any one to eat! There is no food in the whole world which is just as tasteful to everybody and that will agree equally well with every one.

With children the following rule should be observed: Never force a child to fill its stomach or satisfy its hunger with any food which it dislikes, but only an attempt should be made to get the child gradually used to the food in question.

For this purpose it is not necessary that the child should eat large quantities of this food, but a little will do.

The old saying: "The child should eat that which comes upon the table," should be altered thus: Let the child taste of everything which comes upon the table, but let it satisfy its hunger with the food which it likes.

Pumpkin Pies.

Isaac Crane is not alone in his fondness for the "most luxurious of pies." But, as times and cooks improve, a pumpkin pie with the real old-fashioned, crisp crust and rich flavor is not often in evidence.

A good pumpkin pie should be half squash—a solecism worthy of Pat—but, nevertheless, true. It should be rich and golden in hue with a shade of red. But how to obtain it?

One woman says, "cut your pumpkin in cubes and put in a saucepan with a cupful of nice molasses; place on the back of the range and let it cook until soft, but add no water, and it will be of the right color and richness when done. Sift and add two eggs for each pie, ginger, salt and nutmeg to taste, milk and sugar until the mixture is sweet enough and thick enough for filling. Bake the crust first and then fill and bake again."

But eggs are high, and there is yet another way to make a toothsome pie that will make a hungry man wish a second and even third piece—if he doesn't say so.

Men always love pumpkin pies. Some of our minor poets have sung its praises, and I do not know but some of our great ones, but the writers have always been men.

Stew your pumpkin (half of which is squash) until tender, drain and mash with a wooden spoon until soft and smooth. Pour on it about half as much milk as it will need, set on the range and stir until it scalds. For an ordinary milkpan full of pumpkin ready for the pies, roll to a powder four or 4 1/2 crackers. Stir into the warm pumpkin and milk; add two cupfuls of granulated sugar, one teaspoonful of salt, one teaspoonful of ginger, the same of cinnamon, and one cupful of molasses. Stir well, and put it away in the refrigerator or some cool place a day or two until the various ingredients blend, as the artists say together. The flavor is much better for standing awhile after mixing than if used at once.

When ready to bake make some short pie-crust. If you have it use cream for shortening, with a tiny pinch of soda and salt. Roll thin, after mixing and kneading quite hard. Don't choose too thick plates for these pies, nor too thin—just about medium.

Then add milk again to your pumpkin, stirring until it is about the consistency of thick cream. Bake until done, and then bake awhile longer. They will be a rich golden brown on top, and have a delicate flavor in which neither spice predominates.

There are pies which seem to have caught the gold of the sun in which the gourds ripened, the spicy odor of the harvest field in autumn, and the creamy richness of the prize Jersey's milk; and alas! there are also pies, poor, watery, tasteless, stringy; only fit for the dogs, and hardly acceptable to them. For some years I made that kind, but after frantic efforts to please a member of the family who loves this dainty, and the sacrifice of dozens of eggs and hours of time, I tried using powdered crackers and letting the filling stand a day or two before using and was successful. In the fall, if the weather is warm, cook the mixture in the pan before you put it away. A second baking will not hurt it.

You know what Emerson says: "I can reason down or deny anything, except this perpetual belly; feed me must and will and I cannot make him respectable." Eat me must and variety is the spice and almost the necessity of life or good health.

As your fruit cans get empty, pare and eat in dice a pumpkin. Cook it in water, with sugar enough to be real sweet, and seal up as you would any fruit. At any time it will be ready for pies, only requiring less sweetening.

Our foremothers dried the pumpkin in slices, looking like new moons on poles by the kitchen fire, the same as dried apples. But this is a better way: Cook soft, sift on to fat baking tin, dry in the oven until it is

quite hard. Break into bits and put up in paper bags or jars as you please. It will keep as long as glue, which it now resembles. Soak in warm water or milk until it comes back to the resemblance of pumpkin, and make into pies.

Pumpkin seeds and pumpkin brown bread are other dishes easily made, but the first is not delicate in flavor; the last very good.—Sarah P. E. Hawthorne, in Portland Transcript.

Digestion of New Versus Stale Bread.

New bread is well known, observes a writer in the Lancet, to be less digestible than stale bread, although it need not be so. There can be no question, however, of the rapidly superior flavor of the former, and hence the preference of many people for hot rolls for breakfast. So far the palate would appear not to be a safe guide to digestion. Hot rolls, however, when masticated properly, should not offer any difficulty to the digestive organs. A slice of stale bread on being broken with the teeth resolves into more or less hard, gritty particles, which, unless they were softened by the saliva, would be almost impossible to swallow. The particles would irritate the throat and the gullet. The fact is, therefore, that man is compelled thoroughly to masticate and to impregnate stale bread with saliva before he swallows it. This act, of course, partially digests the bread, and thus makes it in a fit state for digestion and absorption farther on in the alimentary tract. This is why stale bread appears to be more digestible than new bread. New bread, on the contrary, is soft, doughy, or plastic, and there appears to be no necessity to soften it with saliva, hence it escapes the preliminary digestive action of the ptyalin of the saliva. New bread, in other words, is in reality "bolted," and "bolting" counts for many of the ills arising from dyspepsia.

The Uses of "Adhesive."

A clever woman once remarked that there was almost no domestic dilemma that could not be solved with brains and a hairpin. To these time-honored weapons the housewife has lately added a third, and now she can face the forces of disorder and disaster with an absolute certainty of success. In the first place it is invaluable for hanging light pictures, posters, tapestries, etc., on hard-finished walls. Many institutions and office buildings it is positively forbidden to drive tacks into the walls, and the use of a wire and picture moulding is either impossible or impracticable. Try adhesive, girls who long to adorn your walls with boarding school with the small photographs in which your hearts delight; and when you get tired of the pictures or wish to move them, all traces of the rubber strapping may be instantly removed by means of a few drops of benzine or naphtha. It is sometimes necessary for the housewife to go on her vacation, and have many boxes to confide to the expressman or to store, what could be neater or more convenient for fastening on the card of identification than a little strip of the ever-ready adhesive attached to either side of the card?

Or perhaps your tooth is aching, and your faithful friend, the hot-water bag, which has never failed you before, has chosen this inopportune time to spring a leak. Agony try adhesive and you will almost forget your toothache in your delight at the neat little patch you have applied.

Glass bottles and tin cans which often utterly refuse to hold any label that is introduced to them through the medium of paste or mucilage become suddenly docile when tagged with a bit of adhesive. Try it, you housewives who have never been able to mark the tin pails and boxes in your kitchen pantry, and you will no longer be obliged to taste in order to distinguish the soda from the powdered sugar.

As a bandage-faster adhesive is without a peer. This is, indeed, its orthodox use, and belongs to the province of the surgeon. But it is sometimes necessary for the uninitiated to dress a burn or a boil where it is very painful to apply sufficient pressure over the bandage to hold it in place. Paste down the edges or ends with strips of the rubber plaster, and hear what the sufferer will say.

When the doctor leaves medicine in a glass, and you have sense enough to know the importance of keeping it closely covered, cut a circle of cardboard a trifle larger than the top of the glass and fasten it on with the edges of adhesive. Then hear what the doctor will say about your ingenuity.

In many households where there are old persons or young children the presence of rug or highly polished floors is a source of danger. These rugs may be easily kept from slipping by the application of a few bits of the rubber plaster to the under side, and if the floor be very slippery the adhesive may also be fastened to the soles of the shoes. It acquires or recovers strength, as the orthopedic wards of hospitals, and a many a serious trouble does it prevent.

If your rubber overshoes develop a sudden hole, patch them with adhesive. It will also mend your umbrella, your cloth skirt and the crown of your felt hat, not to mention the dilapidated back of your pet receipt-book, or the cracked side of your favorite jardiniere. If the thermometer hanging outside of your window dances a noisy jig to the tune of every high wind, blind it down with a strip of adhesive, which is proof against any weather.

This is only a beginning of the uses to which this article may be put. You will not have owned a spool of it for a week before you have discovered a dozen more, and you will wonder how you ever lived so long without the constant companionship of this friend that sticketh closer than a brother, but which is always ready to relax its gentle grip when urged to do so with a little benzine.—Woman's Home Companion.

Domestic Hints.

CHEESE STRAWS.

Two cupfuls of grated cheese, one cupful of flour, three tablespoonfuls of melted butter, one-quarter of a teaspoonful of salt and one-quarter of a teaspoonful of cayenne pepper; mix together, roll thin, cut into narrow strips and bake brown.

TEA ROLLS.

One quart of warm milk, one heaping tablespoonful of lard, salt, one tablespoonful of sugar; have the milk warm enough to melt the lard, then let it get lukewarm, and add three-quarters of a cup of sifted flour, and knead it into a little water; stir in flour enough to make a stiff dough, as for bread. Let it raise until light, cut it out into small squares, one-half cup of butter, one tablespoonful of sugar and one-quarter of a teaspoonful of salt; work all into the dough thoroughly with the hands, add flour enough to make a smooth dough; let it raise until light, and roll out to one-half inch thickness, cut out with a biscuit cutter and butter one-half, or over and put in time; let them raise until light, and bake in a golden cake.

GOLDEN CAKE.

Well beat one egg, then mix with it a cupful of fresh milk, and having blended these, add a tablespoonful of orange marmalade. Mix together six ounces of sifted pastry flour, six ounces of castor sugar, half a teaspoonful of salt, a pinch of tartar, and half a teaspoonful of carbonate of soda. Having thoroughly blended the dry ingredients, put them into a basin. Make a well in the center, and pour in the liquid mixture. Stir, and beat them well together. Pour into a well greased cup or loaf pan, and bake in a moderate oven. Turn out when baked, and sprinkle with castor sugar before serving.

POTATO ROLLS.

Put four floury potatoes through a wire sieve; add four ounces of minced ham, tongue, or bacon. To each cup of chopped parsley, a teaspoonful of chopped onion, pepper, salt, half an ounce of warm butter, and the yolk of an egg. Stir over the fire for a few minutes; spread on a plate to cool. Shape into balls, egg and breadcrumb these, and fry in deep, hot fat. These are very good for breakfast.

EGG PLANT FRITTERS.

Roll the egg plant in salted water with lemon juice till tender. Then mash it well, add enough flour to it so that it may be moulded, and to each cupful of the mixture add a beaten egg. Season with salt and pepper, put in a little melted butter, shape and fry in boiling fat.

BEANS WITH OYSTERS.

Cut up small slices of sirloin or tenderloin steak, and fry them in a little butter. Then add a little water to them, season with salt and pepper, cover tightly and simmer till very tender. Take up, pour the liquor into the bottom of a baking dish, laying the steak in alternate layers with oysters. Four in more stock, if needed, cover with a good crust and bake till this seems done.

Peeling peaches the pretty color under the skin, which is usually lost in the process, may be preserved by scalding the fruit. If the peaches are to be eaten raw, however, the plunge should be a quick one. The skin will come off without difficulty if peaches or tomatoes are scalded in this way; a wire basket is best for the purpose, as it will enable the bath to be given more speedily.

Huckleberries are a delightful addition to molasses ginger cake as well as to soda biscuit.

Put the nut rind, bolt together three cupfuls of granulated sugar, one cupful of milk or cream, and one tablespoonful of butter for ten minutes. Take from the fire, add one cupful of chopped nuts and stir rapidly for a few minutes. Pour into buttered pans and mark in squares.

Wine or brandy, and other flavorings in pudding sauces. To remove grease spots from floor boards, take a quarter of a pound each of fuller's earth and pearlash and boil in a quart of soft water. While hot lay the mixture on the greased parts, allowing it to remain on them from ten to twelve hours, after which it may be scoured off with sand and water. A floor much spotted with grease should be completely washed over with the mixture the day before it is scoured.

A tablespoonful of paraffin added to each gallon of water in which clothes are to be boiled helps to whiten them, especially if they are yellow from lying by.

Dents in fine polished furniture may be removed in the following manner: Lay a number of layers of moistened brown paper over the dent, and put a warm iron over them. The steam will gradually cause the wood to swell and to fill up the dent. It sometimes takes patience, but slight dents which are a considerable mark to furniture may be raised in this way.

It is not necessary that any special tool be invented for creating better and better. Heat the bowl in which the work is to be done by putting boiling water in it just long enough to warm the bowl, but not long enough to make it hot on the outside. Beat the butter in this warm bowl with a wooden spoon. It will be reduced to a cream in a moment or two, and then stir in the sugar, and the two will form an even cream. The secret is not in acquiring a new tool, but in learning how to use the old ones.

The simplest way of renovating an old carpet is to beat it free from dust, and then wash it on a dry, clean floor. It requires a strong worker to accomplish this successfully, but the result will be found very satisfactory. Purchase a ball of carpet soap or of ordinary oxal soap. Take two old towels, one dry and one wet, and a pail of warm water. Wring out a towel in the warm water; dampen the carpet with it, but do not make it too wet. Put the soap over the damp surface and scrub it with a stiff scrubbing brush until a thick lather covers the carpet. Wash off this lather and dry the carpet with the dry towel. Each section of the carpet must be cleaned in this way and dried as thoroughly as the worker can dry them with old towels. Let the carpet dry on the floor. Remove all the great marks at first before cleaning a carpet in this way.

Stews where vegetables enter largely, in combination with a little meat, when slowly simmered and made thoroughly tender, are exceedingly wholesome. The capacity of mind and character can be made to contain a large amount of nutriment in a most palatable form.

In no way can a child's organism be treated and benefited better than by a systematic and studied regimen. If it has periods of dullness, with feverishness of order, don't try to drugs or nostrums; use the foods in the diet, which must from their nature remedy the trouble. If the child seems runs down, don't dose it with a cod liver oil that is repulsive to it. Arrange for it a salad of the right sort with plenty of pure olive oil, and note the improvement in a week.

Frequently a child will like a salad better if lemon juice in place of vinegar is used. A little of it negates the heavy taste of the dressing, and the child objects to it at first. And salt, only used as a salad for children. They like a savory touch as well as the rest of us, but it is best not to give it to them.

Vells may be cleansed by steaming. Get a piece of an old tin can or boiler, wind the vells carefully round it, being very careful that the edges are even. Lay across a boiler or saucepan of boiling water, and steam for three-quarters of an hour. Leave on the wood till dry. Crapes are never so satisfactory as when made in this manner, the steam giving it the stiffness of new material, and also taking out all the dirt and dust.

To clean gold lace pound some rock ammonia finely and apply with a brush to the lace, rubbing it in. Then wash the lace well in cold water equal to new, and the cloth of the trousers or tunic will be unharmed. Or sew the lace in a clean linen cloth, boil it in one quart of soft water and a quarter of a pound of soap, and wash in cold water. If tarushed, apply a little warm spirits of wine to the tarushed spots.

To try if an egg be fresh put it in a basin of water. If fresh it will sink, if not very fresh it goes more or less beneath the surface, and if stale it floats on the water.

To prevent knitting needles from rusting, keep them in sawdust.

Fashion Notes.

Many of the gowns by fashionable dress makers have waists that are opened in the back and are perfectly straight in front with a point. The skirt in many instances is put on the belt, with the back fullness confined in small box plaits flowing away from the waist. Art nouveau embroidery is frequently used, and chenille also in delicate tints is applied in embroidered designs.

Lace collars are to worn this winter as generally as last year, but not so wide, and are made usually of Plauen laces instead of the Arabian. Escorial lace has returned to the fashion, and is much worn, and is popular for evening wear.

Narrow band collars in lace or fine needlework, always so neat and becoming, remain in vogue for forenoon wear, but are not seen upon dressy gowns in the afternoon. Perhaps no other fashion is so generally followed as the slipping under one of these collars, and after being fastened with a brooch the two ends are simply drawn down into the belt, which is worn with the same front dip so modish, giving the chest charming figure line to the waist. Black velvet cravats of this kind with belts to match insure the best of service.

Plaiting and cords are greatly in vogue on the velvet hats of the season, and this favorite material appears in all sorts of fanciful twistings when used for trimming. Conventional folds of velvets are particularly stylish on the simpler felt hats worn on the street. One pretty brown



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felt, with slightly rolled up brim, has heavy folds of velvets of a shade darker than the hat laid about the crown and partly covering the brim. Just above the velvet folds an attractive touch is given by a narrow band of white satin, and a white bird is placed on the left side of the hat, catching up the brim. Green velvet on a gray-brown hat is a pleasing combination.

A smart street costume of green Venetian cloth may be handsomely trimmed with Alaska sable fur. A band of the fur may surround the bottom and the head of the deep flounce, which finishes the skirt, and edges the revers on the blouse and on the bell-shaped upper sleeves. Upright rows of black velvet ribbon with pointed ends and of graduated lengths look well as a trimming for the upper part of the skirt, and on the bodice, as well as at the top of the sleeve. The puffed undersleeves may be of black velvet, and the chemise and collar of pale green or white, embroidered with black.

One of the handsome gowns of the season is of dark blue velvet, with white polka dots. Two flounces, sloping upward in the back, edged with handsome silk braid, finish the skirt. The bodice has a lace yoke, and an indescribably pretty vest of pastel colored silks pulled in richly and caught in a fetching bow midway down the front.

A pretty flannel waist for morning or business wear, seen lately, was made of an unusual shade of old blue, tastefully set off by a Vandyke style of white flannel. Beneath the yoke was a slender spray of embroidery. The waist opened in the back.

Zibelines should have the vogue they are enjoying, for what can be more feminine than their softness of touch, which insures at the same time such pliancy towards fitting? They clothe a woman's figure to perfection, and they are also very light of weight this season. Look for that quality when buying. The black ones are very attractive, and one may find some of them with long white hairs woven into their surface, which produce a happy effect if the trimming carries out the mingling of black and white. There are also plum, rose or magnolia-green, Burgundy red, Seves or F ench blue, as well as stone-grays and beige and castor-browns, all of which rule in modish shades colors. These shades run through all kinds of cloths and woolsens, whether rough of surface in tufting or in shaginess, in whip-cords, heavy serges or rough flannel and mixed chevrons.

Rather short sash ends with loops, or a soft rosette finish at the waist line, are one feature of the new dressy gowns. They are usually made of soft silk, drawn in a tasseled finish at the end, and attached either at one side of the front or directly in the back.

A reform is contemplated in mourning apparel for children, which will do away with black gowns and substitute all white in the place of the large

Rheumatism

DR. RADWAY & CO.—

I have been a sufferer from Rheumatism for more than six months. I could not raise my hands to my head, or put my hands behind me, or even take off my own shirt. Before I had finished three-fourths of a bottle of Radway's Ready Relief I could use my arms as well as ever. You can see why I have such great faith in your Relief.

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Poetry.

THE BATTLE OF LIFE.

The battle of life misunderstood,
Our Heavenly Father only would
Have us know the simple words—"Be Good."
And he does not say, be rich, be wise,
Nor seek on earth what men do prize,
Only "Be Good," the dear Saviour cries.

The Holy Spirit doth ever say
The battle of life is always pray
That you may "Be Good" from day to day.
J. W. C.

FROM ONE TO TWELVE.

In his letter, for fun, he said, "Meet me at one."
I said I would go, but I didn't!

"Will it suit you at two to have luncheon? Oh, do!"
I said I would go, but I didn't!

"For a trip to the sea—my train starts at three."
I said I would go, but I didn't!

"I want to see you once more."
I said I would go, but I didn't!

"More dead than alive, he said, 'See me at five?'"
I said I would go, but I didn't!

"He sent roses at six, and I felt in a fix,
And I said I would go, but I didn't!

"When seven was past, I thought, 'Will his love last?'"
I said I would go, but I didn't!

"Oh, for dinner at eight," he said, "don't be too late."
I said I would go, but I didn't!

"Oh, come and be mine!" he said, "with his longing at nine."
I said I would go, but I didn't!

"May I kiss you at ten, if you'll come to my den?"
I said I would go, but I didn't!

"I said I would go, but I didn't!"
I said I would go, but I didn't!

"A talk at eleven," he said, "I would be heaven!"
I said I would go, but I didn't!

"When twelve o'clock struck, he was down on his luck,
And I said I won't go, but I did!"

—Smart Set.

GOD'S WAY.

Not time the silver corner of age,
The gentle calm that bids the soul away;
The dusk set upon the finished page,
The darkness stealing o'er the closing day.

Nay, in the strong, bright noonday of life
Darkness fell on thee, and death's silent pall:
Even in the thick and glory of the strife
Came the sharp-sullen signal of recall.

"God's way," The warrior bent his head; and
Passed the strong soul to where all things are clear.

Prepared, unquestioning, the road to go
Nearer to God, to whom God's self was near.
—W. Gilchrist Wilson, in the Spectator.

CARDINAL FLOWER.

In the marsh beyond the willows they have lit
The dusky torches
That proclaim the autumn's coming, budded
Wands that bloom in fire.

And the trees take up the signal, flaming forth in
Gold and scarlet,
And a silence wakes the humming of the mes-
sage on the wire.

'Tis the pause of golden days before the scene
Shall be dismantled,
A still carnival of color ere the winter fasts
Sustains.

And these glowing banners the voyagers of old,
Perchance more aptly,
Name them "Cardinals," no duller robe may
Speak the blessing here.

—Sarah J. Day.

PEACE.

The heart where peace abides is like the ocean
Whose depths the surface storms can never
Anvay.

But stillabides in deep, unruffled quiet,
For all the foam-decked waves that roll above
The heart where peace abides is like the heaven
The limpid dove where clouds in sullen might
May come and go; but through each rift appear
The blue shines forth the same, serene and
Bright.

And our hearts this blessed peace, great
Father!
Thou hast endowed and cheered through Thy
Love.

Thine becomes to us, Thy faulty children,
A substitute of the better life above.
—Miss E. H. Warner.

SEPTEMBER'S GLORY.

Here's goldenrod!
In the corners of the zigzag rills,
In the borders of the dreary way,
Springs profusion over hills and dales,
In the sight as to glad earth the day;
Bright, yellow goldenrod!

The old treasures earth holds hid away
I could surpass them, with a lavish hand,
She has her generous breast with garlands gay
Early autumn sees spread o'er the land—
A wealth of goldenrod!

—Selected.

When that's overdone you'll meet
No off-moist human kind,
No wears his polish on his feet
Instead of on his mind.

—Washington Star.

She's a matchless beauty,
And that she can't forget,
But all in vain, so it appears,
That she is matchless yet.

—Leslie's Weekly.

—Eden once a rib became
A woman, so they say,
And now its ribbons that become
A woman of today.

—Philadelphia Press.

Miscellaneous.

In the House of My Friend.

After a Broken Engagement.
All the world—our world—had known of our
engagement from the first, but none—except our
selves—yet knew that it was at an end. Every
one had prophesied it, every one had congrat-
ulated us when it had come to pass. Every
one would be filled with consternation when
it became known that it was at an end. Therefore
I wished to put off that disagreeable day.

Our last assembly dance was to take place
Friday night. I had never missed one before, but
I intended to be absent from this. It would
cause comment, but not so much as if I should
attend and avoid Agatha—as, under the circum-
stances, I must. I had cast about to find some
place to go, but finally had thought of Corey.

Corey is an old bachelor friend who lives like a
hermit among his books in a cozy "box," as he
calls it, some forty miles from town. And I have
his standing invitation to "run down and take
post lunch at any time." I had been there once,
just before my engagement. I would go again on
Friday and spend Sunday with him. I wrote and
received his characteristic answer: "All right,
old fellow. Come!"

So I made my preparations and was just about
leaving my office on Friday afternoon when this
letter from him reached me:—
"I've been called over to Philadelphia on busi-
ness, and can't get home till Saturday noon. But
come all the same. You know the house, and the
key will be in the same old place. Make yourself
at home. You will find carriages, drinkables and
snackables set out for you in the dining-room. And
your bed is in the room upstairs next mine. Mrs.
O'Grady, my dame of all work, sleeps at her own
house, and will let herself in, as usual, some-
where near dark hours near dawn. She will get
your breakfast whenever you appear. All that I
own is at your service, therefore come!"

Under any other circumstances I should have
postponed my visit until my host should be at
liberty to receive me, but as things were, I hur-
ried along, only to find that I had just missed my
train. The next train did not leave until half-
past eight, so I walked away the time in a near-by
restaurant over a supper I could not eat, and
gave vent to my grief against Agatha again.

And I certainly felt that I had a grievance—
ever man had one against a maid. In all the
course of our engagement we had had no falling
out until this fateful one, and I had every reason
to believe that she was fondly and faithfully my
own. Fortunately I had been undetected in time,
and it had happened in this way:

A few days ago I had left my office unusually
early, and had started upon my purpose to se-
lect a wedding present for my betrothed. For
the day was drawing near, and as yet I had not
been able to decide between a diamond bracelet
or a jeweled ornament for her lovely auburn hair.
As I walked along, pondering this perplexing
question, I looked up and saw Agatha on the cor-
ner of the street. Evidently she was expecting
some one, though it could not be myself, for
never before had I come up to that hour. But
how pleased and surprised she would be to see
me, I thought!

I was awaiting with pleasant anticipation the
moment when she should catch sight of me,
when suddenly a man—a perfect stranger to me—
walked up to her, and her manner of greet-
ing him plainly showed me that he was the one
for whom she had been waiting there. Immediately
they started off together, and I followed only to
see them enter the very jewelry store for which
I had been bound.

So I went straight on to my lonely room and
brooded over woman's falseness and deceit. But
I would be just, and Agatha should have a chance
to explain things—if she could.
She welcomed me that evening with her usual
warmth. My coldness certainly surprised her.
I surprised her still more when I asked—without
any beating about the bush—why she had met
at such an hour on such a street, and what
their errand at the jeweler's had been?

She stared at me and answered, womanlike,
by the counter question, how did I know?
"I saw you!" I said savagely.
Her reply to that was rather scornful: "I did
not know before that you were a spy!"
"At least I have the right to ask you—"
"And the right to refuse to answer," I am
not used to you yet."

"Nor ever will be, unless you give a satisfac-
tory reply to my questions now," I declared
hotly.
"Is that your ultimatum?" she said, with a
strange smile. "Then listen to mine: I hate a
tyrant and I refuse to answer!"

And then and there she gave me back her
ring.
Her amazing words were final. I left her
without having obtained an explanation, and
with our engagement at an end.

I had not seen her since, nor did I desire to
see her.
At last it was time to go, and at last I had
reached the station where not even the cus-
tomary dilapidated vehicle awaited me. But it
was not a long walk to Corey's "box," and
it surprised me to see how well I remem-
bered the way even in the dark, for the clouds
obscured the moon.

Presently I had reached the crossroads and
there turned to the right. Then one, two, three
detached cottages were passed and Corey's place
was reached. How familiar its outline seemed
as it loomed up dark and shadowy before me.
I stumbled on the low piazza step where I
dropped my bag while I ran my hand up the
inside of the nearest pillar, feeling for the nail
on which Corey always hung his key. But I failed
to find it and was groping for it, when—
I heard the barking of a dog!

I am not altogether a coward, but I do own up
to a strong aversion to snoring and savage dogs,
and my first impulse was to find shelter as speed-
ily as possible.
Corey was careless, ten chances to one the
parlor window was unlocked. I sprang for it and
though it stuck I managed to force it up. The
next minute I was safely landed and the win-
dow shut upon the dog which was on the piazza
yelping savagely.

But my tribulations were but begun. I had
not recovered my breath before I heard another
dog in the hallway overhead. If Corey had men-
tioned that he kept such brutes I never should
have come!

As I hastened to close the door between the
animal and myself I ran into something tall which
fell over with a crash. And I immediately
thought of the animal which arose I knew I had
overturned a lamp!

But the door was closed in time, though the
beast was snoring scathingly at it and barking fur-
iously at the other side of the door.

I was hot and angry. Besides that I was con-
scious of feeling hungry, and how was I to get
the supper which was spread for one in the din-
ing-room with this brute's jaws watering for me
in the hall? If this was a joke that Corey had
played off on me, he should pay dearly for it on
his return!

I put my hand in my pocket for a match, then
remembered that after lighting my cigar on the
way from the station I had thrust my match into
the pocket of my overcoat, which now lay
with my bag on the step outside, well guarded by
the first of those savage dogs!

Was ever a man in the house of his friend in
such a plight before? I tried in vain to find a
match or a candle or a comfortable chair in these
dark and cheerless rooms. But not one of these
things could be found. And I dared not stretch
my weary length upon the floor for fear that some
meandering stream of kerosene from the shade-
less lamp might reach me during the night. So I
sat both hands and feet in a dreadful state of
wonder how a man like Corey could have such
an abomination in his house.

The night seemed centuries long, and though I
thought I had not closed my eyes, toward morn-
ing I must have dozed, for I came to myself in
dawn's gray light feeling stiff and lame, yet with
a sense of relief at the stillness, for that infernal
barking finally had ceased.

I wondered if I could not quietly make my way
up to my bedroom and get a comfortable nap
there before the day began. So I tiptoed over to
the door and turned the knob. To my amaze-
ment the door remained fast closed. It was
locked—on the outside!

Now who was in the house to make me
prisoner in this ridiculous and humiliating way?
I went to the window and started to raise the
sash, when both dogs began their outrageous
racket again.

So then I lowered the window from the top and
mounting a chair, leaned out at a safe distance
from the vicious beast below.

Immediately I heard a voice—a woman's
voice!
"Man," it said, "stay where you are, for besides
the dogs, I have a revolver—and I am considered
a good shot!"

My blood began to boil. Corey's woman-
charge was taking advantage of his absence to
carry things with a high hand!
Just beyond the front door a bay window, pro-
jecting into the piazza, and evidently my jailer was
on guard in there behind the blinds.

"Woman!" I said, savagely, "call off your
dogs and put your pistol up, or when your master
comes you will find you have been less smart than
you think yourself to be!"

"My master!" came in tones of indignation.
"No tyrant ever had or ever shall have control of me!"
There was something strangely familiar in both
that sentiment and voice. I leaned far out, look-
ing eagerly toward the concealed figure behind the
blinds.

"Agatha!" I cried, and in answer came her
cry of astonished recognition. Then silence fell,
save for the intermittent barking of those fiends.
My amazement knew no bounds, but it was
accompanied by furious indignation at the impru-
dence of her conduct.

"Agatha!" I cried, "in heaven's name, why
did you come here?"
"It seems to me," she retorted with some as-
perity, "that that is the question I should ask
you. What right had you to come and force your
entrance to this house, and to my room, and to
frighten me half to death?"

"I regret to have frightened you,—if you had
not set those dogs on me I should have been quiet
enough! But as for you,—that what the world
will say should it ever come to know!"

"The world will say what it will,—that you are
the most cowardly and contemptible of men to
come deliberately to this house in such a way,
when I was here alone—"

"But alone or Corey's company, the world
will be likely to ask first how happened you to be
here at all!"
"I do not know—what you mean to insinuate,
—certainly my being here alone was an unfor-
seen accident. But alone, or not alone, I have a
perfect right to the shelter of my own cousin's
house!"

"Now don't prevaricate," I said sternly, "for
Corey is not a married man!"
"Corey again! Pray, who is this Corey—and
what has he to do with me?"

"I suddenly chanced upon me as a suspicion at
last penetrated my dull brain. 'In heaven's
name,—in whose house am I, then?' I gasped.
'In the house of my cousin's husband—John
Foster, the Philadelphia jeweler—who has just
rented this place. And he was the man you saw
meet Corey yesterday!'"

"I was drawing near, and as yet I had not
been able to decide between a diamond bracelet
or a jeweled ornament for her lovely auburn hair.
As I walked along, pondering this perplexing
question, I looked up and saw Agatha on the cor-
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sash, when both dogs began their outrageous
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Poetry's Department.

THE KEY TO THE BOX.

"What would you do," said the little key
To the teakwood box, "except for me?"
The teakwood box gave a gentle creak
To the little key, but it did not speak.

"I believe," said the key, "that I will hide
In the crack down there by the chimney-side.
Just so this proud old box may see
How little it's worth except for me."

It was long, long afterward in the crack
They found the key, and they brought it back.
And the old box said: "I am sorry, you see;
But the place is filled, my poor little key."

—St. Nicholas.

A Night on the Black Mesa.

This is the story the chief engineer told one
afternoon when he found his wife and myself on
the piazza, half-asleep over our books. We
needed waking up, he said.

A score of years ago, when Geronimo was
master of New Mexico and the "Bad Lands," I
was with a party of engineers surveying the
Denver & Rio Grande Railroad from Denver to
El Paso. We were running through a deep arroyo
one day when a small band of Apaches, headed
by their chief, rode down upon us. They pulled
up their horses and dismounted, regarding us and
our instrument with keen curiosity.

The transit-party was well in the lead; Dick
Stanley, with the level, and I, with the rods, were
perhaps half a mile back. A point had just been
taken for the level to pass me, when the chief
intimated a desire to look through the level. It
was a powerful lens, and the chief, looking
through it, was manifestly surprised to find me
apparently within a few feet of him. He was
whereas in fact I was some four hundred feet
away.

At that moment I thoughtlessly threw the rod
over my shoulder with what must have seemed to
him a threatening gesture, for he dodged instanta-
neously, then drew back glowering. The braves
laughed immoderately at this, and the chief
promptly lost his temper. Seizing his Winchester
he started on the run to punish me. Meanwhile
I, in a sudden chill of dread, had expected
that I had intended him no harm. Whether
my mode of communication was inadequate, or
whether my blood was the only cure for wounded
dignity, I cannot tell; but the chief was implacable,
and I finally drew my six-shooter and held him
covered.

He halted at this and reluctantly suffered him-
self to be dissuaded from carrying the matter
further. He was still very angry, however, and
heaven knows how long it took him to get away.
I paid no attention to his sullen looks, and we
proceeded with our work as if nothing had hap-
pened to interrupt it. The Indians lingered in
our vicinity but a short time, then vanished
into the shadows of the black mesa under
which we were passing.

On our return to camp that evening we dis-
covered that an error had been made in marking
the stake numbers. I volunteered to go back and
undertake the necessary correction, and being
detained by darkness, I had expected to find
myself at nightfall about three miles from
camp. It was impossible to make that distance
in the dark, and I decided to spend the night on
the mesa that rose, dark and solemn, out of
the desert, and to start early next morning.

It was a rugged, towering plateau, formed of lava builders
piled one upon another, and sparsely clothed
with mesquite or sage-bush of grayish green.

After half an hour spent in exploring the face
of the rock found at the height of some two
hundred feet a small chamber, perhaps eight feet
square, made by overhanging boulders. Its roof
was open, except that a hedge of mesquite served
as a complete screen.

I found a smooth spot on the rock floor, large
enough for me to lie at length, and made my-
self as comfortable as the circumstances would allow.
The weather had been hot that day, and when I
left the surveying party I had given my cartridge
belt and revolver to Alonzo, our Pueblo packer.

They had taken my window and picked up
my overcoat and bag.
"Oh, I must tell you that I'm afraid I've done
some damage in there—in the dark I upset the
lamp." I said apologetically.

"Yes, I heard it," and afterward I smelt it,"
she replied, demurely.
"Agatha!" I cried, going nearer to the blinds.
"I was an ugly brute—there I was mad with jeal-
ousy—can't you forgive me? It was all because
I love you so! Oh, just let me see your face!"

"I saw you!" I said savagely.
Her reply to that was rather scornful: "I did
not know before that you were a spy!"
"At least I have the right to ask you—"
"And the right to refuse to answer," I am
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